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ABSTRACT

Focus in this preventive medicine monograph for health professionals is on consumer health education and the current and potential effects of mass communication on the quality of medical care. Following an introduction, the content is presented in four chapters. Chapter 1 covers the state of the art in consumer health education and discusses three models of health education, the research bases of health education, attitudes and knowledge about both health and illness, illness behavior, and implementing programs of preventive medicine. The second chapter on the communications revolution first presents an overview of the communication process and mass media and then discusses the rise of specialism, consumerism and the message of the media (particularly television), and health behavior and mass communication. Chapter 3 on quality medical care covers the origins of the health consumer; legislative initiatives, such as national health insurance, professional standards review organizations, and health maintenance organizations; and quality assessment including the establishment of a physician-consumer alliance and outcome measures. The last chapter briefly presents a strategy for health education. Each of the four chapters concludes with an extensive bibliography. (EM)

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TOWARD AN EDUCATED HEALTH CONSUMER:

MASS COMMUNICATION AND QUALITY IN MEDICAL CARE

By

Carter L. Marshall, M.D.

A Report of Conferences Sponsored by the
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PREFACE

The Fogarty International Center was established in 1968 as a memorial to the late Congressman John E. Fogarty from Rhode Island. It had been Mr. Fogarty's desire to create within the National Institutes of Health a center for research in biology and medicine dedicated to international cooperation and collaboration in the interest of the health of mankind.

The Fogarty International Center is a unique resource within the Federal establishment, providing a base for expansion of America's health research and health care to lands abroad and for bringing the talents and resources of other nations to bear upon the many and varied health problems of the United States.

As an institution for advanced study, the Fogarty International Center has embraced the major themes of medical education, environmental health, societal factors influencing health and disease, geographic health problems, international health research and education, and preventive medicine. Our commitment to the study of preventive aspects of human disease is expressed in the forthcoming Fogarty International Center Series on Preventive Medicine.

Improvement in the health status of the American people will depend, in great measure, on the design and application of programs which place major emphasis on the preventive aspects of human disease. Although health authorities generally agree with this thesis, there is need for more precise definition of effective methods and programs of prevention, financial resources required to implement these programs, and priorities to be assigned to research in preventive methodology. The need to assemble expertise in this field to elucidate mechanisms whereby the full impact of preventive medicine may be brought to bear on the solution of America's major health problems has been expressed repeatedly in public statement by leaders throughout the health field.

In response to this need, the Fogarty International Center initiated a series of comprehensive studies of preventive medicine in order to review and evaluate the state of the art of prevention and control of human diseases, to identify deficiencies in knowledge requiring further research, including analysis of financial resources, preventive techniques, and manpower, and to recognize problems in application of preventive methods and suggest corrective action.

This monograph, *Toward an Educated Health Consumer*, is one in the Fogarty International Center series on the Teaching of Preventive Medicine. It deals with health education and the current and potential effects of mass communication on the quality of medical care. The growth of the consumer movement is discussed along with the technological advancements which have occurred in the communications field and the interplay between the two (that is, consumerism and mass media) as they affect the adoption of preventive measures for maintenance of lifetime well-being. As the need for individuals to take greater responsibility for their own health is increasingly recognized, provider-consumer communication and cooperation become ever more important. It is hoped that this monograph will be influential not only in producing educated health consumers, but in promoting an alliance between consumer interest groups and health professionals in the attainment of their mutual goal: high-quality medical care for everyone.

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ACKNOWLEDGMENTS

In May 1973, the Subcommittee on Communications in the Education of the Public for Health of the Association of Teachers of Preventive Medicine (ATPM) met at the Mount Sinai School of Medicine of the City University of New York for a Symposium coordinated by the Medical School's Department of Community Medicine and funded by the Fogarty International Center. The Symposium dealt with both theoretical and practical issues in health education via presentations on health education for the public and physicians, advertising, mass media, and person-to-person programs in health education. It concluded with a recognition by participants that effective health education requires improved evaluation of current efforts as well as establishment of priorities for the future. This monograph grew out of some of the issues raised by the ATPM Symposium, focusing on the current and potential role of communications and of consumerism in effective health education for our times.

In the preparation of this document, the author was assisted by Helen A. Bronheim, who prepared Chapter 1 and edited the overall manuscript, and by all members of the Division of Communication of the Department of Community Medicine, who read, reread, offered advice about, and debated the substantive issues and recommendations embodied in the manuscript. I am indebted to all of them for their untiring efforts and unflagging enthusiasm. The wisdom and interest of Dr. Kurt Deuschle, Chairman of the Department of Community Medicine, were invaluable assets in the preparation of the final manuscript. In addition, the intensive discussions of the Task Force on Consumer Health Education of the June 1975 National Conference on Preventive Medicine, of which I was a member, have helped immeasurably in clarifying and furthering my efforts. Finally, I wish to thank the Fogarty Center for the generous support which made possible the preparation of this manuscript.

INTRODUCTION

As we enter the third quarter of the 20th century, a number of factors have come together that make it necessary for us to take a new look at the way we handle consumer health education in the United States. These factors are: the increasing prevalence of chronic disease and the need for individuals to take more responsibility for their own health; the search for effective methods to assess and assure the quality of health care; technological advances in mass communication; and, of course, the growth of the consumer movement itself. This monograph does not attempt to deal exhaustively with these subject areas, but rather focuses on health education and the way it influences and is influenced by each of the four factors. For example, a special effort has been made to define the important role of communication both in the genesis of consumerism and in the recent emphasis on the use of outcome measures in the evaluation of medical care quality.

I have also tried to point out ways in which mass communication can and cannot be used in the service of health education. I have treated health education as a general subject area and have avoided occupational breakdowns and role assignments. Some of my suggestions may be surprising, perhaps even controversial. If so, this is to be welcomed, because controversy can lead to further clarification of the goals we should be setting in the area of consumer health education.

The need for an educated health consumer has grown considerably during the past 75 years. For example, 19th century public health authorities had to do little more than inform the public of sanitation measures taken in their behalf. The development of techniques for immunizing people against infectious diseases added another dimension. It became necessary not only to inform the public, but also to exhort them to take advantage of the measures offered. With the emergence of chronic disease as a major health problem, however, the situation has changed dramatically. There are no simple techniques for the prevention or cure of chronic diseases, which require long-term medical management and a high degree of patient cooperation. Such prevention techniques as do exist for chronic illness do not lend themselves to the information and simple behavior models of the past because they require the individual to convert habits and lifestyles that increase his susceptibility to disease into habits and lifestyles that promote health. This is a difficult process that takes years to effect and then requires the individual to maintain his new behavior for life.

The development of what we have called a chronic disease model in consumer health education is complicated further by the fact that we must deal to a large extent with people who are not patients. If our efforts are to succeed, a number of challenges must be met. First, we must persuade people that health maintenance is a realistic and achievable goal. Second, we must persuade people to regard health maintenance as a personal obligation rather than as the responsibility of the health care system. Third, we must make it easy for people to adopt beneficial behaviors; for example, if we want people to exercise, facilities for exercise must be

available. Fourth, we must help people avoid such socially approved but harmful behaviors as smoking, excessive use of alcohol, and overeating.

Meeting these challenges will require a coordinated effort of a type not yet demonstrated in health education. It will also require particular attention to low-income people whose aggregate health behavior is the least satisfactory, whose attitudes toward medicine are the most negative, whose knowledge of health is the least well developed, and whose health status leaves the most room for improvement.

Five hundred years ago, Gutenberg invented movable type, and 150 years ago the telegraph ushered in the era of electronic communication. These two developments produced a still-accelerating expansion of information and knowledge and led to the development of occupational specialism in all areas of human activity, including medicine. As specialties generate additional knowledge, still more specialties emerge; consumer health education is one of the more recent.

The growth of specialism preceded a related development—the emergence of electronic mass communications, particularly television. While much concern has been expressed over the program content of television, its greater significance lies perhaps in its technical capacity to disseminate information. Television has made possible for the first time the creation of a general data base shared by all segments of the society, including low-income people whose primary sources of information rarely include print media. One important effect of the creation of this general data base is that it has reduced the general information gap between society as a whole and the specialists, who have tended to focus on ever narrower specialties with the result that the specialist often knows a great deal about a small area and relatively little about the general field to which his specialty belongs. Television can also serve to spark a viewer's interest in a particular subject and inspire him to seek additional information from newspapers, magazines, or other publications specializing in the subject.

As people learn more about a particular subject, they tend to coalesce into what we have called a community of interest. The community of interest develops information by following the specialty or specialties which subsume the subject. The juxtaposition of specialism and community of interest produces consumerism, perhaps the most powerful force in our society today. Essentially, consumerism is a device to close the information gap between the specialty and its community of interest. Consumerism, specialism, and communities of interest all generate information which is homogenized, simplified, and disseminated by television.

Television has a bad reputation among those interested in health education primarily because of the close ties of television to the advertising industry. Too often, deceptive claims and misleading information exert a negative influence on health consumers and health providers alike. Aside from the valuable—but limited—public service advertising, use of mass communication techniques in consumer health education has been difficult in the past because of the enormous funding levels required. However, an examination of television advertising reveals much that is relevant to consumer health education, notably the fact that advertisers invest large sums to gain very small increases, usually on the order of 1 or 2 percent.

Health education efforts using television rarely seem to meet the extraordinarily high expectations of health professionals, yet most do far better than even the most heavily backed advertising campaign. For example, a television-based health education program aimed at an elderly population in New York City successfully

induced 8 percent of its target population to participate in screening programs and followups. It is proposed that health providers who use television should, to be more realistic, limit their expectations. The 4-year antismoking campaign, which relied primarily on television, and the less well defined but continuous effort to educate people to the dangers of cholesterol and saturated fats are cases in point.

Because information presented on television cannot be retrieved, frequent brief messages have more impact than 30- or 60-minute programs. Frequent repetition is also necessary because television cannot be directed with great precision at a particular audience.

Since the availability of public service time is limited and the costs involved in normal television advertising are high, one effective way for health providers to use television might be to lend their prestige in return for the development of products that are either beneficial to health or at least less harmful than those presently in use. This might be achieved through the use of product endorsement by medical specialty societies. Such endorsement would, of course, be conferred on the product only after exhaustive review of its beneficial claims and careful consideration of any potentially negative effects on health. While this approach may seem unusual to many health workers, it merits careful consideration since use of television is the only way, short of face-to-face contact, to reach all segments of the population, including the poor who are, perhaps, most susceptible to the negative effects of false advertising. Those who would educate the public in matters of health must educate themselves in the use of mass communication techniques. Particular attention must be paid to evaluating health education materials formatively as well as summationally.

As chronic diseases have achieved primacy in the catalog of human ills, they have led to ever-rising costs without yielding a proportionate increase in longevity or decrease in morbidity. High costs and a variety of other complaints have contributed to the growth of health consumerism. On one level, we have the trend to do-it-yourself medicine and the publication of such consumer-oriented documents as patients' bills of rights and consumer guides to health insurance or local practitioners. At the Government level, we have had discussions of national health insurance and the passage of several pieces of legislation including bills creating professional standards review organizations (PSROs) and health maintenance organizations (HMOs). HMOs are free to advertise and to be advertised once they achieve Federal certification, while the PSRO Act will ultimately have the effect of placing professionally developed norms and criteria of care into consumer hands. Once such norms and criteria become available to the public, the information gap between consumer and professional will be closed still further.

Medicine is covered so extensively in the media that it is no longer unusual for the public to learn of medical news before the professional. As health-related information accumulates in the public domain, demands for the assurance of quality become increasingly frequent and it seems clear that eventually the consumer will be satisfied with nothing less than quality standards based on outcomes. For the consumer, there can be no success in surgery if the patient dies. False positives, inadequate followup, ineffective therapies, and poor patient compliance are the major causes of outcome failures. In most cases, the physician's success is measured by the extent to which he succeeds in influencing patient behavior. The physician proposes but the patient disposes.

The development of outcome measures must take into account not only the

health care process itself, but also patient behavior (that is, the degree to which the patient complies with the physician's recommendations). This may well require a new kind of provider-consumer alliance, one that places the patient in a new relationship with the physician. The use of outcome measures should also stimulate consumer interest in and support for such forms of research as clinical trials. In addition, a provider-consumer alliance around outcomes will probably provide effective resistance to efforts to impose budgetary restrictions that do not take into account the cost effectiveness of the programs involved. The establishment of outcome measures is an act of incalculable educational importance, and it is high time this long-neglected activity was incorporated into the process of medical care.

The goal of consumer health education is to encourage people to adopt preventive behavior and become knowledgeable, self-reliant health consumers. Three objectives are necessary if this goal is to be achieved. Each objective reinforces and augments the community of interest concerned with health and increases the popular constituency of health education.

The first objective is to protect both consumer and provider against misinformation. The consumer needs protection from misleading advertisements and one way to do that might be to encourage high school students to examine critically the claims of television advertisements they see. Physicians are subject to similar pressures, particularly with regard to drug advertising, and they must be able to select the most efficacious therapy from the choices offered.

The second objective is to demonstrate and reinforce preventive behavior. Here, an important resource might be the 3 million low-level service workers (primarily women and minorities) employed in the health industry who, with a little training, could comprise an army of peer health educators to low-income groups. In addition, the trend to do-it-yourself medicine should be encouraged and will probably be stimulated by a growing number of self-help books, the increasing presence of family practices, and, perhaps, the advertising effects of HMOs. The involvement of the consumer in his own health maintenance can also be encouraged among the poor by the use of health advisers drawn from the same socioeconomic group.

A final objective is to support the general consumer movement. Consumer health education is part of the broader consumer movement and is dependent on consumerism for the political power necessary to produce changes beneficial to health. The role of television in the context of consumer health education is to generate interest and provide the information base required to stimulate the search for indepth specialized information whether from print media or via face-to-face consumer interactions. Television, we believe, is the technological base for the development of consumerism. It is not, however, its ultimate instrument. Gun control, facilities to promote physical fitness, certain kinds of restriction on television advertising, and a host of other changes all require legislative action best approached through an alliance of health professionals and consumer interest groups.

CARTER L. MARSHALL, M.D.
Professor of Preventive Medicine
Director, Office of Primary Care
College of Medicine and Dentistry of New Jersey
New Jersey Medical School
Newark, New Jersey 07103

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CONSUMER HEALTH EDUCATION: THE STATE OF THE ART

The only way to keep your health is to eat what you don't want, drink what you don't like, and do what you'd druther not.

—Mark Twain, *Following the Equator*

Changes in the health status of Americans and in the state of the art of contemporary health care have produced a need for a new theory and strategy for dealing with consumer health education in the United States.

At the turn of the century, the average patient was a relatively passive recipient of whatever treatment was available for his particular problem. That situation has changed dramatically over the years, and today's patient is much more a participant in the health care system. One reason is that the average American now lives longer than his grandparents—thanks largely to advances in the medical art—and is, therefore, more susceptible to chronic and degenerative diseases, the management of which requires increasing levels of participation by the patient himself. An idea of the degree of change that has taken place over the past 75 years can be gauged from the following situation.

In 1900, there were approximately 3 million Americans over 65 years of age—about 4.1 percent of the population. By 1970, their number had swelled to 20 million, and older Americans accounted for almost 10 percent of the population. In 1900, the death rates per 100,000 population from tuberculosis, influenza and pneumonia, and certain diseases of early infancy were 194.4, 202.2, and 62.6, respectively. By 1965, the death rate from tuberculosis had been reduced considerably, while deaths from influenza and pneumonia had decreased by 85 percent, and from certain diseases of childhood by 54 percent. (*1*) By contrast, the death rates from heart disease and cancer increased by 268 percent and 240 percent, respectively, between 1900 and 1965.

In addition to chronic and degenerative diseases, today's American is also subject to the long-term effects of individual lifestyles and to the cumulative effects of a highly industrialized society, neither of which is susceptible to direct medical intervention. To deal effectively with the problems created by this situation, we need a consumer health program that will not only make Americans aware of the health consequences of 20th-century living, but will also make them aware that they, personally, can and must begin to take more responsibility for the maintenance of their own health and the prevention of illness.

The concept of medical self-help is comparatively new to modern medicine. Indeed, until the development of the germ theory of disease in the late 19th century, public health efforts to control disease were limited almost exclusively to quarantine measures to isolate the victims of diseases such as leprosy and plague and, in the 18th and 19th centuries, the removal of dirt and other suspected disease carriers to improve living conditions. For the rest, the sick had to rely on home remedies or on the fairly primitive skills of the medical profession.

It was only after the development of specific immunizations to control communicable diseases that health providers became aware of their responsibility to educate the public in matters of health. Subsequently, as effective disease prevention tools became available in the late 19th and early 20th centuries, both governmental and voluntary health agencies assumed the mission of implementing them for the general good, in line with our Western culture's "highly developed sense that whatever is possible for one should be available to all."(*2*)

Not surprisingly, perhaps, the overall development of consumer health education, from its beginnings in the early 20th century, has moved from broad-scale measures matched to the broad-scale technology of primary prevention to individualized measures tailored to the available technology of individual care in the prevention of illness. The primary prevention techniques of the early sanitation movement relied on such indirect measures as pasteurization, water purification, and other environmental manipulations and required little more than public acceptance. Immunization, on the other hand, required the delivery of preventive technology directly to at-risk populations and this demanded active individual participation. This duality of technology in

the control of communicable diseases gave rise to a parallel duality between consumer health education programs of public information, on the one hand, and those geared to stimulate or promote individual action, on the other.

This split in consumer health education is nowhere more evident than in the controversy surrounding the fluoridation of drinking water a decade ago. The fluoridation effort exemplifies the development of consumer education techniques from the beginning of the sanitation movement, when implementation of environmental measures was accomplished by straightforward administrative or governmental fiat, to the period when immunization made possible the control of communicable diseases, at which time it became necessary to develop information programs to persuade people that immunization was both safe and effective.

The addition of fluoride to public water supplies is a broad-scale prevention technique requiring only public acceptance (that is, individuals need only continue to drink available water to receive fluoride therapy). The topical application of fluorides, however, is a preventive measure requiring individual participation (that is, individuals must enter the health care system to receive fluoride therapy). The active resistance to fluoridation in a number of States focused on the issue of "individual rights" and on the contention that the addition of fluoride to public water supplies created an unavoidable danger to the public. Countering this opposition required a two-pronged public information campaign, consisting of (a) programs to enhance public acceptance of fluoridation and (b) programs to encourage individual action via direct visits to the dentist for fluoride therapy.

Another factor in the development of health education includes the nature of the diseases to be controlled and the control measures available. For example, the course most communicable diseases take is fairly straightforward: They are usually self-limited in duration and the patient either lives or dies. Prevention, too, is straightforward in that it is quick, relatively simple, foolproof, and painless. These factors convinced early 20th-century public health authorities that simply providing the public with information about the availability of quick, painless, guaranteed preventive or diagnostic measures would assure large-scale public participation in programs to eradicate communicable disease. (*3*) Too often, however, public response has been disappointing, even when efforts have been made to stir up popular interest and to make participation easy. (*4*) Even now, while the U.S. population as a whole is protected against communicable disease, significant sectors of the population are not. For example, despite public information efforts regarding the ready availability of immunization against early childhood diseases, a recent study conducted for the Center for Disease Control indicated that almost 40 percent of 14 million American children under age 4 have not received adequate protection. (*5*) Similarly, continuing and highly sophisticated educational efforts are required to assure public use of readily available diagnostic and control measures against venereal diseases, which have established themselves in epidemic proportions in many parts of the United States.

The control of chronic diseases greatly increases the complexity of health education. To begin with, since the specific causes of most chronic diseases are unknown, it has not been possible to develop the primary preventive technology that has been available for the control of communicable disease. Further, the course of chronic disease is generally progressive, long term, incurable, and irreversible. Treatment, too, is prolonged, and there is no quick, short-term prophylaxis comparable to immunization. A "clean bill of health" for cancer or high-blood pressure today is no guarantee against the onset of symptoms in the future. Chronic disease control requires ongoing individual participation in the health care system, both for diagnosis and treatment.

From the foregoing, it is possible to discern three models of health education, each of which depends for its impetus upon the available technology of health care.

Model I: Information. The public is informed of things already accomplished in the control of communicable disease through such environmental manipulations as chlorination of water supplies or pasteurization of milk. (As noted earlier, this may also require mass persuasion.)

Model II: Simple Prevention. Individuals are encouraged to undergo a simple procedure to remove the risk of communicable disease, that is, immunization.

Model III: Chronic Disease Control. Individuals are encouraged to engage in (a) life-time participation in the health care system toward the early diagnosis and control of chronic, degenerative disease and (b) life-time concern with the possible health consequences of lifestyle.

The prevalence of chronic disease in the aggregate health profile of the American people requires continuing refinement of appropriate chronic disease models for health education. Recent definitions of health education recognize and encapsulate this need:

> *Health education is a process that bridges the gap between health information and health practices . . . it motivates the person to take the information and do something with it.* (*6*)
> *Health education is a process with intellectual, psychological, and social dimensions relating to activities which increase the ability of people to make informed decisions affecting their personal, family, and community well-being.* (*7*)

These, and similar definitions, place health education in the behavioral sphere and, by so doing, they assign new kinds of responsibilities to health educators, providers, and consumers of health services.

To health educators, the challenges are twofold:

- Successful communication of the belief that the maintenance of good health is an appropriate and achievable individual goal and responsibility, and
- Establishment of viable "bridges" to the health care provider system to encourage appropriate individual behavior with regard to the screening, diagnosis, and control of chronic disease.

The challenge to health care providers is to facilitate increased consumer participation in the health care system, primarily by assuring the accessibility and availability of their services. To encourage preventive behaviors without medical backup to meet increased demand for service is counterproductive at best. The publicity and information campaigns surrounding the recent breast cancer surgery of the wives of the President and Vice-President of the United States, for example, created unprecedented demand on available screening facilities nationwide. In November 1974, the American Cancer Society reported an increase of 400 to 700 percent in requests for breast cancer examinations at its 27 national screening centers. From an average wait of 3 months for a breast cancer screening at New York City's Gutman Institute prior to the Ford/Rockefeller surgery, the lead-time for appointments by January 1975 had risen to 4 or 5 months, with a written request required. Because daily public exhortations to followup on suspected signs of breast cancer are given, it is clearly essential that the provider system meet its obligations to make followup possible.

In addition to technological accessibility, barriers such as cost, transportation, language difficulties, and sociocultural factors—especially among the poor, the uneducated, black, Spanish-speaking and other ethnic minorities—must also become a continuing concern of the health care provider system. Cervantes' comment that "costs, inaccessibility, social circumstances, prejudice, and inconsiderate treatment by health professionals virtually force Chicanos to use their own immediate resources for health or medical treatment . . ." (*8*) can be applied to many other subgroups of the population.

For the individual, health behavior in response to the risk of chronic disease requires new kinds of perceptions and responsibilities, particularly the following:

1. *Perceived Susceptibility,* that is, awareness of vulnerability to a variety of chronic disease entities.
2. *Perceived Severity,* that is, understanding of the threat or risk factor even in the absence of immediate symptoms.
3. *Perceived Benefits and Costs,* based on knowledge of the preventive and long-term behaviors required to reduce or ameliorate the risk. (*9*)

In a discussion of the behavioral requirements for preventive health, Baric has formulated a model of "at-risk" behavior to the threat of chronic disease. (*10*) Contrasting Talcott Parsons' model of the "sick role" with "at-risk" behavior concerning chronic disease, Baric suggests the following:

- While the sick role offers "gains" in terms of exemptions from social responsibility, the at-risk model only imposes duties. "The person is expected to fulfill all his social obligations, to change some existing behavior and to do it on his own without any right to social recognition for his achievement. (*11*)
- For the vast majority of illness episodes, the sick role has a limited time span and promises

an eventual reward in terms of a return to health. On the other hand, there is no time limit in the at-risk role; behavior acquired is expected to be continuous and the reward is far less certain.

- The sick role is reinforced by the medical profession and society. The at-risk individual, however, often has to fight off temptations forced on him by members of society (for example, the offer of cigarettes or alcohol).
- The sick role is based on real symptoms. "An at-risk role relies on the abstract quality of cognitive processes through which a person perceives a health threat." (*12*)

The nature of the challenges and the possibilities in health education at the present time is best expressed in the record of Americans' behavior concerning individual health maintenance and diagnosis.

There is no question that Americans are interested in and concerned about health. Health food, once an esoteric oddity confined to food faddists, is now widely available and sold in supermarket chains throughout the nation. Special health magazines, like *Psychology Today* and *Prevention,* report ever-increasing subscription rates. *Our Bodies, Ourselves,* a publication of the Boston Women's Health Collective, has become a best seller on college campuses (see Chapter 3).

In some instances, behavioral indicators are also encouraging. Between 1968 and 1972, coronary death rate for white males, ages 35 to 64, fell 8.7 percent, and similar downward trends were seen for black males and for all women in this age group. Cigarette smoking among the adult male population declined from 60 percent in 1955 to 40 percent in 1970. The average level of blood cholesterol has also begun to decline, from 240 mgs/100 mgs of blood in the 1950s to about 220 mgs/100 mgs at the present time. (*13*) The massive public response to the Ford/Rockefeller breast cancer surgery noted earlier also bespeaks a high level of public interest in available prevention (see Chapter 3).

On the other hand, while it has been known for years that cervical cancer can be reliably detected through a simple Pap smear, only half of all American women over age 18 have had Pap smears once . . . and only 5 percent of all women over age 20 undergo annual Pap smears, as recommended. (*14*) Similarly, while hypertension can be controlled on a large scale for selected population groups, it is estimated that only half the people who have this condition are even aware of it. (*15*) While cigarette consumption for the population as a whole has declined, its incidence among young people has risen.

In short, the glass is only half full. Americans, as a whole, are concerned about health and show encouraging tendencies to act in behalf of the preservation of health and the prevention of illness. As will be discussed below, however, in this—as in most aspects of American life—the poor, the uneducated, and minorities are furthest from the achievement of optimum health behaviors, even though fear of illness and denial of both symptoms and susceptibility cut across socioeconomic lines to affect aspects of the health behavior of all Americans.

RESEARCH BASES OF HEALTH EDUCATION

A vast and continually increasing literature on health attitudes, knowledge, and behavior attests to the growing recognition and importance of these factors in consumer health education. The *Index Medicus* lists 24 journal articles in health education in 1964, 35 in 1970, and 54 in the first 8 months of 1974 alone. The monograph series of the Society of Public Health Educators (SOPHE), the single most detailed and useful resource for the study of health education in the United States, recently added, as a regular feature, a section on "Current Literature Related to Health Education." The first such bibliography cited 169 references for 1973. (*16*) Detailed reviews of this literature are regularly incorporated in the SOPHE health education monograph series. For our purposes, a brief review of some major areas of research and investigation should be enough to indicate the trends affecting health education and its efforts to meet the challenge of behavioral change.

ATTITUDES AND KNOWLEDGE ABOUT HEALTH

Definitions of health vary: Physicians see it as a reflection of the normal functioning of the body and the mind; but the World Health Organization views

it more abstractly as "a state of complete mental, physical, and social well-being." (*17*) The average person's perception of his own health depends on a variety of subjective and cultural judgments of well-being or illness. In Spanish-speaking villages of New Mexico and Colorado, for example, where a well-fleshed body is a significant criterion of health, a thin man with toothache was regarded as more ill than a fat man with TB. A recent British study showed that persons who had not seen a physician for up to 10 years tended to consider themselves healthy, even though they had a similar number of recent trivial ailments as another group of persons who had recently seen a physician. (*18*)

Whatever the definition of good health, survey research data indicate that it is an item of great importance to Americans. In comparable Gallup polls of random samples of American adults over a 12-year period personal good health ranked first for 40 percent of respondents in 1964 and for 29 percent of respondents in 1971. In the 1971 poll (*19*), the importance of good health was seen to be conversely related to education and income, which is consistent with the widely observed finding that the poor participate differently in the health care system than do wealthier members of the population. For the poor, the emphasis is on emergency care and the episodic treatment of diagnosed illnesses, while higher income groups usually participate in the health care system on a continuing basis, with regular check-ups and preventive screenings.

A study of a random sample of 935 predominantly lower-income households in East Harlem in 1970 emphasizes the special importance of health to the poor. The study found that the importance of health among the East Harlem population outranked other concerns by more than two to one, with half of all respondents ranking health as "most important to have from life," with 18 percent for the next most important item, "family."* (*20*)

The fact that most Americans are interested in and knowledgeable about health was well demonstrated by a National Opinion Research Center (NORC) study in 1966. (*21*) It seems likely that health knowledge can only have increased in the decade since the NORC study.

On the basis of a secondary analysis of national survey research data for the period 1951-1962, Wade (*22*) concludes that "education is so powerful an indicator (of health knowledge) that from it alone one can usually predict as much as from all other demographics." Wade also found that:

- A positive relationship exists between health knowledge, income, and occupational status.
- An inverse relationship exists between health education and age.
- Controlling for education, differences in health knowledge related to income and age occur chiefly in the lower educational group.

Knowledge about health is widely assumed to be a prerequisite for successful health education. Indeed, the Information Model described earlier has been a major component in the public health education efforts of almost all voluntary health agencies. This model has been described as one in which "the role of health education is the transmission of information about health and disease *from* the expert professional *to* the lay client." (*23*) It assumes that:

- Humans are rational.
- The client is captive.
- Didactic methods will reach the client.
- The essential disciplines required are pedagogy and education.

Despite, or perhaps because of, the simplicity of the Information Model, it is severely limited in its effectiveness in several significant health areas. (*24*) As we have seen, the Information Model provided a highly appropriate method of informing the public about primary prevention activities undertaken in its behalf. When applied to behavioral outcomes, however, the Information Model is, at best, a baseline for the development of education programs to promote desired individual outcomes.

ATTITUDES AND KNOWLEDGE ABOUT ILLNESS

Studies of knowledge, attitudes, and behavior concerning specific disease entities add another dimension to the research base for health education. In a now-classic study of participants and nonparticipants in a TB screening program, Hochbaum (*25*) sought

*The overwhelming importance of health in this study is, in part, an artifact of the known sponsorship of the study by the medical school affiliated with a large voluntary hospital in the area.

to investigate the reasons that people accept or reject opportunities to discover their health status. In a random sample of roughly 1200 adults in three cities, Hochbaum found a high degree of information about tuberculosis and the role of X-rays in diagnosis. About 85 percent of the respondents were certain that TB is contagious. Nearly 97 percent were aware of the importance of early treatment; more than 80 percent understood that chest X-rays could detect symptoms or the disease before the affected individual himself could do so.

Correlating X-ray behavior with knowledge base, Hochbaum concluded:

> *People learn to give correct answers to questions before they learn to believe what they say and long before they use this information to guide their behavior. . . . Information alone is not a motivating force, although it is basic to most behavior. Without knowing what to do and how to do it, one cannot act. But only when this knowledge is related in some way to one's needs will it actually be translated into action.* (*26*)

From these and other findings, Hochbaum hypothesized a three-step model of health behavior:

1. People know the facts.
2. People know the facts and believe them, but don't think the facts apply to them.
3. People know, believe, and act on the facts.

The Hochbaum paradigm can be viewed as a Simple Prevention Model of Health Education. In this case, information or knowledge about TB screening was seen in context of lifestyle factors militating against TB screenings. It was found, for example, that people often will avoid taking actions they feel will create more problems than they are likely to solve and that they are more concerned with immediate suffering than with distant cure. (*27*)

Numerous investigators have studied the attitudinal limits that transform knowledge and information into salience (that is, the belief that knowledge about illness has personal applicability). For example, Jenkins and Zynaski (*28*) studied polio, cancer, and mental illness using Osgood's semantic differential to construct bipolar scales for public and personal susceptibility, public and personal salience, severity, preventability, and other factors. For Hochbaum's formulation of the interaction of knowledge with perception of severity and salience, Jenkins and Zynaski hypothesized a more basic dimension—personal involvement. They suggest that:

> *. . . under specified social and situational conditions . . . public response to a health program will be maximal when the target population feels a high degree of personal involvement with the disease under attack and also feels that it is a socially acceptable disease over which science has a high degree of mastery.* (*29*)

Antonovsky (*30*), in recent research based on Jenkins' methodology, studied four dimensions of the image of several diseases among the urban Jewish population of Israel. The diseases studied were cancer, heart disease, mental illness, and cholera. Respondents were asked to rate each illness from "least" to "most" with respect to seriousness (mortality and recovery), social and personal control, susceptibility, and salience. Cancer was rated the most serious of the illnesses, with 65 percent of respondents believing that death was the outcome of cancer, while only 30 percent felt heart disease was the most serious. However, Antonovsky found a fairly low perception of individual susceptibility to all diseases, closely related to their actual prevalence among the population. For example, heart disease took first place as a possible personal affliction, followed by cancer and cholera (then epidemic in Israel). Becker, in a review of studies of preventive health behavior, found that:

> *At least six retrospective and four prospective studies of preventive health behavior have yielded positive correlations between relatively higher levels of subjective vulnerability and compliance with recommendations to: 1) obtain screening for cervical, breast, or other cancer; for tuberculosis; for heart disease; for Tay-Sachs disease; and for dental problems; and 2) engage in preventive health actions such as obtaining immunizations and accepting accident-preventive measures.* (*31*)

Attitudes and knowledge about cancer have been subject to a massive research effort, documented in detail in a recent SOPHE health education monograph, *Review of Research and Studies Related to Delay in Seeking Diagnosis of Cancer.* (*32*) The authors point out that a major effort in cancer education has been to educate the public about the warning symptoms of cancer. As might be expected, however, the literature suggests that there is no linear relationship between knowledge and attitudes about cancer and recommended preventive behavior. For example, one study of persons with knowledge about cancer symptoms found that a high level of anxiety led to greater delay in seeking medical help than did a low level of anxiety. (*33*)

On the other hand,

> *. . . the fear of being told the suspected truth may lead to delay, while nondelayers present their symptoms partly because they fear the consequences of further procrastination. The latter has been found particularly among those having the most knowledge about cancer.* (*34*)

Widespread fear and fatalities from cancer are believed to be major detriments to optimum diagnostic behaviors. With an information campaign to counter fear and pessimism leading to inaction, a British program changed public opinion about cancer curability. (*35*) The percentage of respondents who believed that cancer could usually or sometimes be cured rose from 30 in 1953 to 60 in 1966.

Reviewing the role of fear in attitudes about illnesses, Leventhal (*36*) differentiated "danger" from "fear" and described differential control mechanisms. Danger control, he argues, is cognitive, while fear control derives from (1) ambiguity of the danger agent, (2) lack of information about it, and (3) inability to devise action in response to danger. He suggested that health education programs that recognize the existence of fear and attempt to help the subject cope with his emotional response could "decrease the occurrence of fear and facilitate a task-oriented approach in which the subject focuses on the danger and its control." (*37*)

Gordon Allport has discussed barriers to learning and action concerning health and illness in terms of "proceptions"—the individual's specific potentials for seeing, hearing, doing, and thinking, derived from life experiences. In view of the individualized nature of these proceptive directions, he stated:

> *It is hard to know how to present our invitation to learning to students or clients who . . . have a need for safety and freedom from threat, a need for simple and gratifying rubrics to reinforce their own prejudices; who are emotionally fearful and cognitively self-centered. It is usually approval they want and not fact, reassurance and not alarm. . . .* (*38*)

ILLNESS BEHAVIOR

The array of definitional and methodological problems that can be found in the literature on actual health behavior reflects the inherent conceptual complexity of both health and illness. First, because most studies are either prospective or retrospective, they suffer from the inherent weaknesses of each methodology: There is little correlation between what people say they will do and what they actually do in a given situation; recollections of the process of behavior cannot always be relied on. Second, studies in this area generally analyze the attitudes and actions of persons with a diagnosed illness. We have no comparable data about the process by which persons diagnosed as disease-free come to a diagnostic situation or behave thereafter. (*39*)

Other questions are definitional. Where, for example, does health end and illness begin? With physiological changes? In the individual's perception that something is wrong? With the physician's discovery of asymptomatic disease? With the physician's confirmation of presenting symptoms as a departure from normal limits? Similarly, where does illness end? Professionals define chronic illness as continuous, but there is no reason to believe that people perceive such asymptomatic conditions as hypertension or diabetes as significantly omnipresent. It is also unclear whether physicians' assurances of good health signify a return to health for self-perceived symptomatic individuals.

McKinlay (*40*), in a review of the literature on health utilization, has categorized the numerous investigations of health behavior as economic, sociodemographic, geographic, sociopsychological, sociocultural, and organizational or delivery-system approaches. Each of these approaches provides useful, albeit partial, insights to the factors affecting individual health behavior. For example, it has been generally assumed that since knowledge and attitudes affect behavior, attitude change (through health education *per se*, peer influence, or communication) would create desirable changes in health behavior. However, efforts to correlate attitudes and specific health behaviors have proved contradictory. (*41, 42, 43*) In a New York City study, for example, Suchman found evidence linking sociocultural characteristics and medical orientations in a model which appeared to predict health behavior. A recent effort to replicate the Suchman model in another urban setting produced directly contradictory results, with data suggesting that "reliance on either sociodemographic or community orientation variables as predictors of medical orientation is a weak procedure . . . . further . . . . the relation-

ship between medical orientations and health behaviors remains to be established." (*44*)

Some proportion of every population group, however stratified, exhibits desirable health-related behaviors—a fact which requires continuing indepth investigation. In general, however, almost every random sample study of health behavior has found that lower-income, less-educated, and older persons tend to turn to the health care system primarily for acute episodes of illness and, to a lesser degree, for continuing treatment of diagnosed chronic disease. Minority groups and men (as special population groups) usually do not visit a doctor unless they are unable to work or look after their family. These groups rarely make use of programs of prevention unless free services are available. (*45*)

In a study of general influences on illness behavior among a subsample of applicants for social security disability benefits whose self-reported health was poor, Ludwig et al. (*46*) found that 26 percent had not seen a doctor in the past 6 months, regardless of the nature or number of reported symptoms (including arthritis, colds, dizziness, chest pains, shortness of breath, headaches, frequent upset stomach, and tiredness). It was found that, in addition to respondents' income level, medical scientific orientation influenced their use of the medical care system: 31.5 percent of those with strongly negative attitudes toward medicine-science had *not* been to a physician despite feelings of poor health, compared with only 6.9 percent of those with positive medical scientific orientations. (*47*)

After interviewing first-time patients in the outpatient eye and general medicine clinics at a metropolitan Boston hospital, Zola (*48*) identified five patterns of nonphysiological triggers causing individuals to seek medical aid. They were: (1) interpersonal crisis, (2) perceived interference with social or personal relationships, (3) external sanctioning by peer validation, (4) perceived interference with vocational or physical activity, and (5) temporizing of symptomatology.

Zola concluded that it is not at their "physically sickest" that people become patients, but when their accommodation to their symptoms breaks down.

Health behavior varies widely. For example, if we view health behavior in terms of lay definitions of health—the continuing ability of the individual to function in terms of personally perceived norms of adequacy—we can divide health behaviors into self-maintenance and prevention and health care maintenance and prevention. Thus, an individual may engage in one, several, or all of the following types of behaviors:

- Maintenance of functional ability (for example, sleep, diet, exercise).
- Prevention of functional disability (for example, avoiding smoking, heavy drinking, reducing cholesterol intake).
- Validation of functional ability (for example, regular visits to physician or dentist).
- Validation of functional disability (for example, seeking diagnosis of perceived dysfunctions).
- Prevention of impairment of functional ability (for example, diagnostic screenings, early treatment, and therapeutic control).

A number of studies have investigated the relationship among combinations of these factors. The University of Michigan surveyed approximately 1,500 adults in 1963, and a subsample 15 months later, to study four preventive behaviors: toothbrushing, prophylactic dental visits, routine visits to physicians for "checkups," and participation in screenings. The study found that those who exhibited any of the four behaviors were also most likely to exhibit all and, in addition, that those who took a particular action during a specified time period were more likely to repeat the action. Here, too, less educated, lower-income persons displayed less preventive behavior regardless of cost factors. (*49*).

An earlier study by King and Leach (*50*) also found individual consistency over time in general patterns of illness management. Patients with a history of physician consultation for anything unusual or not understood, regardless of severity, also delayed less with cancer symptoms. The authors conclude that the interrelationship of behaviors was so close as to indicate that "reaction patterns were established before the onset of cancer." Goldsen et al. (*51*) also found that those who delayed in presenting cancer symptoms had similar histories of delay with respect to prior medical problems.

Multivariate analysis, on the other hand, reveals numerous anomalies in the relationships among health behaviors. Williams and Wechsler (*52*), for example, divided preventive behaviors into those which reduce or increase susceptibility, those which

reduce seriousness of disease or accidents, and those which reduce susceptibility to financial loss.

Factor analysis revealed a number of primarily independent and unrelated dimensions of preventive health behavior. For example, while obtaining medical checkups was reliably correlated with higher socioeconomic status, obtaining medical checkups was not correlated with not smoking, getting adequate sleep and exercise, limiting cholesterol intake, and not being obese. The six variables associated with heart disease (checkup, smoking, exercise, obesity, calorie, and cholesterol control) were not interrelated; regular dental checkups were not correlated with the matching preventive behavior, that is, regular toothbrushing.

Steele and McBroom (*53*) studied the interrelationship of three health behaviors—physical checkups, dental visits, and eye doctor visits—in association with ownership of health insurance. They found relatively weak association of the health behavior indicators, concluding that the respondents' actions were not "focused on health as a general condition to be achieved through prescribed preventive action." With several others, Steele and McBroom conclude that "health behavior is multidimensional rather than unidimensional in the sense that persons who engage in one behavior tend to engage in others." (*53*)

A before and after study of the effectiveness of media in health education (*54*) confirms the multidimensionality of health behaviors. Control and experimental groups were interviewed about beliefs and behavior concerning health and illness. One week later, the experimental group was exposed to separate films on heart disease, cancer, and tuberculosis. Each of the films recommended regular professional examinations; those on heart disease and cancer recommended personal preventive health behavior. Followup studies of both groups revealed that the experimental group had visited physicians for checkups related to the disease entities under study significantly more often than those in the control group who had not been exposed to the educational films. On the other hand, the two groups showed no significant differences with respect to health behaviors involving personal living habits. The authors concluded:

> *Apparently, then, effectiveness of the beliefs about health in modifying behavior is specific to the kinds of behavior proposed. The medical actions required periodic behavior that would interfere only occasionally with established behavioral patterns of the participants. The actions involving personal living habits, however, involved altering presumably well-established and frequently repeated patterns of action. For modifying such actions, merely changing the participants' beliefs about health was not enough.* (*55*)

While it is clear that knowledge, awareness, and attitudes toward health are related to individual behavior, the relationships are fugitive and variable and appear to increase in complexity in relationship to the complexity of the health behaviors sought. The increasing worldwide effectiveness of World Health Organization programs in infectious disease control (*56*) bespeaks the potential for health educators to involve large population groups in simple preventive behavioral change. However, where long-term behavior or behavioral change is sought, multivariant explorations are required. Research around other aspects of human behavior reveals similar complexities: As the variables and options for voluntary behavior increase, prediction becomes less reliable. (*57*) It is in this context that behavioral modification, a recent trend in behavioral research on health, should be viewed.

Behavior modification is based primarily on the development of the animal learning research of the once-discredited I. P. Pavlov and its elaboration by B. F. Skinner to problems of human behavior. (*58*) Contingency management (reinformation via rewards, punishments, or voluntary contractual agreements) and stimulus analysis and manipulation are the primary concepts employed. (*59*) Combinations of rewards and/or punishments, on the one hand, and identification and manipulation of the stimuli to maladaptive behavior, on the other, are applied by external agents, in an individual or group process with the goal of eventual individual adaptation of desired new behaviors.

To some extent, behavior modification can be seen to shortcut the social, psychological, and cultural effects on health behavior, substituting a direct interventive program of behavioral change and compliance. The participating individual is in effect isolated from his peers and his past, except as they relate directly to the health behavior under study, and is assisted in developing behavioral supports to resist everyday pressures encouraging maladaptive behavior. Cigarette smokers, for example, may be helped to identify the stimuli for lighting up—

nervousness, boredom, hunger, and so forth—and to substitute other responses and other loci for the behavior. (*60*) Similarly, the obese are assisted in identifying and controlling the cues to detrimental food consumption. (*61*)

Some impressive short-term behavioral changes have been noted in rigorous behavior modification experiments aimed at the control of obesity (*62*), alcoholism (*63*), smoking (*64*), and cardiovascular disease (*65*). The long-term success rate is disappointing, however, and because small, selected, or self-selected populations are involved in these studies, it is impossible to measure the relative success of behavior modification against other sociobehavioral factors. For example, it is not known whether behavior modification techniques will prove equally effective among all socioeconomic groups, or how age, sex, education level, and other variables will correlate with successful behavior modification programs. One thing that is known, however, is that because the most effective behavior modification techniques often involve intensive, sustained intervention in preventive health behavior, their benefits in relation to cost are no better than the apparently random successes of the population as a whole to adopt recommended preventive health behaviors.

The research bases of health behavior thus provide a broad range of data on individual responses to health and illness. The challenge to health education is that of identifying the reachable moments in the complex processes of individual behavior as the starting points for motivating people's active participation in the preservation of health and the prevention of illness. Horn's summary of the relation of health education to everyday life best expresses this challenge:

> *When it comes to behavior by those who are basically well, both primary and secondary preventive actions are frequently ignored by large segments of the population. Instead of saying that such people are ignorant or illogical, we will make much more progress if we accept the idea that there is some sense to their behavior from their point of view. Furthermore, that large numbers of people are not only willing, but eager to do things in their own self-interest and in the interests of those who are dear to them. But their concept of what is in their own self-interest depends on their values, not ours, their perceptions, not ours, their feelings, not ours.* (*66*)

IMPLEMENTATION

It is a principle of preventive medicine that preventive behavior, early detection, and early intervention are essential for the optimum treatment and control of chronic disease. It is believed "apparent that surveillance can be maintained and intervention can be made in (at least) five health parameters so that much disability and premature death can be prevented." (*67*) If, then, cervical cancer can be detected through a simple Pap smear, why is it that only 5 percent of women over 20 years of age undergo annual Pap smears, as recommended? If recurrence of rheumatic fever can be prevented, why is it that only 5 percent of those who have had rheumatic fever are under appropriate preventive treatment? If hypertension is susceptible to control, why is it that only half the people with hypertension are even as much as aware of their condition? (*68*)

While behavioral research provides clues to the individual's resistances to appropriate preventive and medical behavior, there are as yet no programs to transform this data into the required positive motivational and educational approaches for the public as a whole or for target audiences at particular risk to specific chronic diseases.

Despite continued assertions of the benefits of prevention, the low level of financial support for the health education of the American public suggests its low actual priority in the health care system. Of $83 billion spent for health care in the United States in 1973, according to the President's Committee on Health Education, 92 to 93 percent was spent on medical care for the sick; 4 to 4.5 percent on biomedical research; 2 percent on such public health measures as rodent control; and less than one-half of 1 percent for health education. (*69*) In a Nation with more than 5,800 short-stay hospitals, with 350,000 physicians, with more than 4.7 million persons employed in the delivery of health services, the President's Committee was able to identify only 111 ongoing health education programs during its 1971-1972 investigations. Health information abounded. The Committee found that the five major voluntary health agencies were spending more than $100 million annually for pamphlets, brochures, films, filmstrips, and other informational materials. In a 10-year period, however, the Committee could identify only two instances in which the agencies attempted

to evaluate the motivational and educational effectiveness of those materials. (*70*)

It is a thesis of the present monograph that widespread mass media dissemination of health information has positive implications for the creation of increased health consciousness and for the eventual creation of an effective consumer constituency for health and health education (see Chapter 2). At this time, however, no particular public constituency exists to represent the needs of consumers for effective health education programs (see Chapter 3).

In the absence of significant public health education efforts on the part of providers, and in the absence of a demand for such efforts by consumers, the task of health education has been borne primarily by the public education establishment. Just as public health education has been secondary to health care delivery, however, school health education has been secondary to other school goals and objectives. In essence, it is because good health is considered a requisite for the achievement of the general goals of education in democracy that the schools have assumed this task at all. (*71*) In turn, school health education is but one aspect of the overall official health responsibilities of the schools, which include health protection and improvement and are a composite of: (1) healthful school living, (2) health and safety education, (3) direct health services, (4) physical education and athletics, and (5) education and care of the handicapped. (*72*)

In this welter of responsibilities for the health and safety of its charges, and in competition with the schools' awesome overall responsibilities, it is hardly surprising that health education, as such, has achieved the same low priority in schools as it has in the larger society. A society that relates to health primarily in terms of crises around illness is unlikely to expect a creative emphasis on health and on prevention of illness from its schools.

School health education programs developed from the classical Greek linkage of health, hygiene, and physical activity to become the physical education component of the elementary and secondary school curricula. Health education itself is a relatively recent addition to the curriculum and was given formal encouragement in 1917 by the identification of health as the first of Seven Cardinal Principles of Education. At that time, physical education teachers, trained formally in exercise and hygiene, were called upon to add health education to their skills, and school health education has been—in the main—the responsibility of the gym department ever since. (*73*)

Despite an increasing awareness on the part of school educators that health education requires special curricula and teaching skills, it still remains an amorphous area and is rarely viewed as an integral or even essential part of the curriculum. (*74*)

With other critics of school health education, Aubrey identifies its programmatic weaknesses as: (1) inadequate training of teachers, (2) lack of enforcement of mandatory state regulations, (3) resistance and apathy of teachers, (4) indifference among school administrators, (5) difficulties in building student interest and involvement, and (6) parental resistance and indifference.

The variety of State teacher certification requirements and the curricular autonomy of 16,700 individual school districts throughout the Nation also militate against the adoption of innovative health education curricula beyond their point of origin in a single State or school district. As public education is currently organized in the United States, each State and/or school district tends to reinvent the wheel for most aspects of curriculum; health education is no exception.

A number of conceptual, goal-oriented approaches to health education have been suggested. (*75, 76*) Hoyman, for example, has identified a number of approaches to health curriculum planning and teaching based on existing data about how and why people relate to health and illness. To replace traditional textbook teaching on such traditional health education topics as first aid, consumer health, and so on, Hoyman suggests the organization of school health education to deal with such concepts as: the life cycle as it extends from generation to generation and from conception to death; America's lifestyles and their relation to health and mortality; the ecological causal web of health, disease, and longevity; and so forth (see Chapter 4).

Several States, notably New York and California (*77*), have instituted new health education curricula at both the elementary and secondary levels. Los Angeles' Project Quest reorganized the course of health education from topics to learner-centered goals and objectives, with preidentified behavioral outcomes for each learning goal. Followup studies of the effectiveness of the Project Quest approach

found overall increases ranging from 14.8 percent to 23.6 percent in all goals and at all grade levels.

On the other hand, evaluation of a similar curriculum approach yielded less encouraging results. Employing a standard health behavior inventory to compare (1) students' self-reported health behavior in traditional and conceptual health education systems and (2) longitudinal change after a period of instruction among both groups, researchers in Florida found that the approach did not produce any significant changes in student reported health behavior patterns. (*78*) Indeed a followup study revealed that students who had been exposed to the experimental approach were no more knowledgeable than the average student. (*79*)

Research findings about preventive behavior point to the implicit difficulty of school health education programs. Adults at risk to potentially killing illness tend to ignore these real threats to life in the face of a variety of public information campaigns and exhortations to action. Symptomatic adults often delay in the presentation of those symptoms to physicians. Painless procedures—such as X-rays, Pap smears, and blood pressure readings—are bypassed by substantial proportions of the population, even when accessibility and cost are not issues. Why, then, should children and youth—to whom the threats of illness can be of only minimal personal relevance—be expected to respond with interest and/or enthusiasm to school programs and suggested behaviors only occasionally supported in their home and family life and nowhere validated by the larger society? School health education has become the whipping post for critics of health education in the United States. While many of the specific criticisms of school health education are justified, its inherent conceptual failings relate to a far broader problem—the perceived relevance and importance of health and illness in the society as a whole.

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2

THE COMMUNICATIONS REVOLUTION

Specialism . . . has fragmented the specialties themselves. . . . The workers lose all sense of proportion in a maze of minutiae.

—Sir William Osler, 1910

AN OVERVIEW OF THE COMMUNICATION PROCESS AND MASS MEDIA

On January 8, 1815, Andrew Jackson and a ragtag army of irregular troops defeated the British at New Orleans to give the United States her greatest land victory of the War of 1812. Impressive though it was, the battle of New Orleans was superfluous: The war had ended on Christmas Eve, 1814—2 full weeks before Jackson's triumph. (*1*)

Six months later, in London, Nathan Rothschild was the first to learn that Napoleon Bonaparte had been defeated at Waterloo. However, rumors of a British defeat had sent prices on the London exchange to extraordinarily low levels. Rothschild bought up stock at rock bottom prices, greatly enlarging his fortune. (*2*).

As the second week of February 1942 drew to a close, General Yamashita's army was well established on the island of Singapore. The British continued to resist, and as the Japanese ammunition supply dwindled, Yamashita reluctantly considered withdrawing his forces across the narrow causeway to the Malay peninsula. The British Commander, General Percival, knew nothing of this, however, and believing himself outnumbered and fearing the loss of his water supply, he surrendered. So it was that on February 15, 1942, "the Tiger of Malaya" secured for Japan the greatest military victory in her history. (*3*).

What, it might be asked, do these three historical episodes have in common except the involvement of the British? In each case, the outcome was determined by communication: the process of transmitting and receiving information. The process can be represented in the paradigm which appears in Figure 2–1. This model was proposed by Shannon in 1948 and most subsequent communication theory is derived in part from his ideas. (*4*) Shannon identified a message, transmitted as a signal and transported via a channel. The channel might be a newspaper, television, radio, film, or any of the other channels known collectively as media. The phrase mass media usually refers to those channels that are aimed at a general audience.

In January of 1815, the U.S. Government was the information source important to Andrew Jackson. The Government message said that peace became effective on December 25, 1814. It was encoded in

THE COMMUNICATION PROCESS ACCORDING TO SHANNON

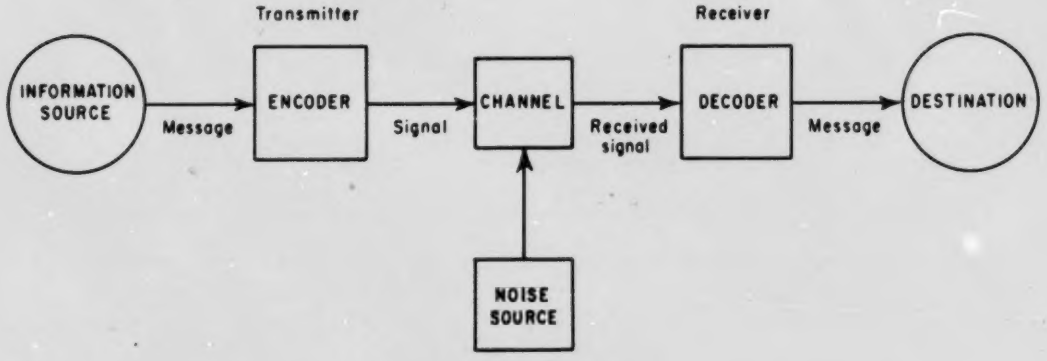


FIGURE 2–1.

written English and sent to the General by a man on horseback, the fastest communication channel then known. In this instance, however, the channel was not able to reach the receiver-destination (General Jackson) in time to prevent the battle with the British.

Rothschild, in contrast, benefited from access to an "advanced" communication system (said to include carrier pigeons) that provided him with information about the battle of Waterloo before the information reached the British Government.

The Yamashita-Percival episode is more complex. Each wanted to know as much as possible about his opponent, while preventing the opponent from finding out anything about him. Good intelligence would have provided both men with a sounder basis for their command decisions and, in Percival's case, might have altered the course of the campaign. Obviously, Yamashita would have worried less about his ammunition supply had he known of the water shortage facing Percival. In Percival's case, however, his decision to surrender was based on the erroneous assumption that he was outnumbered.

All messages are mediated by the respective fields of experience of transmitter and receiver, including social, cultural, conomic, and political influences. De Chardin (*5*) has defined these fields of experience as the "noosphere"; in Shannon's model (Figure 2–1) they appear as noise. Noise can be defined as the discrepancy between the transmitted message and the received message. (*6*) While noise may be considered analogous to the field of experience of the receiver, it does not account for the field of experience working on the origin of the message. To account for this, Schramm has modified Shannon's model along lines depicted in Figure 2–2. (*7*) The model now shows that when the fields of experience share a large common area, communication is readily achieved. On the other hand, if there is no overlap or common experience, communication is impossible.

Neither of these communication models, however, provides for feedback: The source has no direct, rapid means of finding out how or whether his message is received. This problem of feedback accounts for the endless audience research efforts of the mass media, particularly the extraordinary influence on television of the famous Nielsen ratings. On the basis of the continuous monitoring of 1,200 families, these ratings are used by all three networks and form the basis of decisions to retain or drop individual programs. (*8*) The Nielsen approach provides very limited feedback; it reveals what people watch, but sheds little light on what people might watch if their choices were less restricted. At the same time, the Nielsen ratings play a major role in restricting viewers' choices because the show that produces high Nielsen ratings invites imitators. Thus we have the cyclical domination of the television screen by shows of one particular type. As the seasons pass, westerns give way to medical stories which are replaced by courtroom dramas which yield to police adventures which inevitably will surrender their dominance to yet another round of westerns. Meanwhile, the changes are rung on the variety show and the situation comedy, with varying degrees of success.

Communication models have been developed to incorporate feedback and to account for all communicative acts from simple person-to-person conversation to the complex interactions of groups of

THE COMMUNICATION PROCESS AS MODIFIED BY SCHRAMM

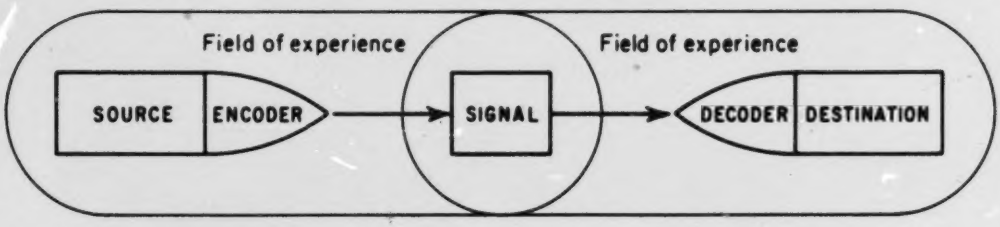


FIGURE 2–2.

people, and the still more complicated process of mass communication, which imposes an enormous organization on the communication chain. Osgood's model (Figure 2–3) is a relatively simple one which stresses feedback and the unity of sender and recipient in the sense that each encodes, interprets, and decodes messages. (*9*)

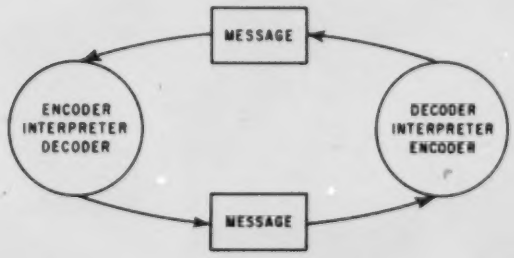
Each of these models is of value in analyzing the content of communication. Shannon was first to delineate the essential elements which he saw interacting in a transport process. Schramm added the very important notion of fields of experience while Osgood's model stresses feedback and the essential bidirectionality of the communication process. In another model, Westley and MacLean (*10*) emphasized the different roles inherent in the process and added the important idea that the receipt of a message by a receiver does not necessarily depend on the sending of that message by a single advocate. There are a number of alternative models one might consider (*11–15*), but those presented here seem to be sufficient to provide both a conceptual context and a perspective for consideration of mass communication. In particular, each of the modifications of Shannon's work adds to the importance of the receiver or audience in the communication process. While Shannon's paradigm implies a passive audience, each of the others provides a dimension which tends to place the audience in a more active posture. The idea of the active audience was forcefully presented by Zimmerman and Bauer (*16*), who demonstrated that people are highly selective in the retention of communicated material and that they are most likely to retain information they believe to be congruent with the views of individuals with whom they will communicate at some future time. Bauer presented additional evidence for what he called the "obstinate audience" in a later paper. (*17*)

The importance of the selective, active audience is paramount. If people retain information congruent with their own conceptions and views, communication techniques cannot in and of themselves induce behavior. Once robbed of its fabled omnipotence, the communications process can be seen realistically as one which relates people to each other and in which people engage for reasons that Schramm has categorized in Table 2–1. (*18*) Table 2–2, from the same source, relates these objectives to the communication tasks of any social organization.

Research interest in communication accelerated coincident to American involvement in World War II, along with the widespread fear of subversion through enemy propaganda. This fear stemmed from a view of the media found in the work of Lazarsfeld and Merton. (*19*) Their belief that once in control of the media, powerful interest groups could use them to further their own ends, led to the so-called "hypodermic" view of media. This view held that once the message was injected, the audience was supposed to respond as if drugged. The theory does not hold up, of course, but as Klapper (*20*) proposed in 1960, mass communication may not have a direct effect, but it does exert a significant influence through various mediating factors. For example, the health education message urging people to have their blood pressure taken is mediated by individual perceptions of personal susceptibility, the severity of the disease, the benefits to be derived from acting, the barriers to such action (*21*), and probably a vague concept of the prevalence of hypertension.

In concluding this overview of the communication process and mass media, it is important to note that

THE COMMUNICATION PROCESS AS SEEN BY OSGOOD



Source: C Osgood et al., The Measurement of Meaning, 1957

FIGURE 2–3.

TABLE 2–1. The Objectives of Communication

Sender's Viewpoint	*Receiver's Viewpoint*
1. Inform	1. Understand
2. Teach	2. Learn
3. Please	3. Enjoy
4. Propose or persuade	4. Dispose or decide

TABLE 2–2. Methods of Communication in Traditional and Modern Societies

Communication Task	Traditional Society	Modern Society Interpersonal	Modern Society Mass Pattern
1. Share knowledge of environment	Watchman	Informed person	News media
2. Socialize new members	Parent or tribal elder	Parent, older children, professional teacher	School system, publishing, educational media
3. Entertain	Dancer, ballad singer, storyteller	Storyteller, artists of all kinds	Entertainment industry, including entertainment media and publishing
4. Gain consensus, persuade, control	Tribal chief or council	Influential leader, salesman, agitator	Government, and all the organizational and media structure for forming public opinion and exerting social control, including advertising and propaganda

the discussion thus far has been restricted entirely to the content or message of communication and how it is transported, received, and responded to. In the discussion which follows, it is proposed that the effect of mass communication is derived not primarily from its content but rather from its capacity to accelerate the transmission of information.

THE RISE OF SPECIALISM

The Greeks communicated the news of their victory at Troy by lighting fires on mountaintops. African tribes used drums as a medium, the American Indians perfected the smoke signal, and many youngsters will remember that the Count of Monte Cristo defeated one of his enemies with the aid of a semaphore. Yet these creative answers to the problem of human communication when sender and receiver were beyond earshot simply footnote the generalization that from man's first appearance on earth until about 150 years ago, telecommunication and transportation were one and the same thing. Save for very short distances covered in a sprint by chariot or a horse and rider, the standard of telecommunication was the camel caravan, which began crossing desert areas around 6000 B.C. at a speed of 8 miles per hour. It was A.D. 1784 before this speed was regularly exceeded with the advent of the horse-drawn mail coach, which averaged approximately 10 miles per hour. (22) In 1837 the invention of the telegraph ushered in the age of electronic media and the speed of communication took an exponential leap from 10 miles per hour to 186,000 miles per second.

The telegraph and its electronic successors not only sparked an explosion of information but also greatly enhanced our ability to store and retrieve knowledge, an endeavor that began with the development of the renowned library at Alexandria during the Hellenistic period (323–331 B.C.). Through the Middle Ages, the laborious process of producing books was undertaken by the church. This gave the church a virtual monopoly on reading skills and made the clergy the dominant profession until well into the modern era (considered to begin with the discovery of the New World at the beginning of the 16th century). This began to change, however, when

exactly 400 years before the invention of the telegraph, Gutenberg invented movable type. Books could now be mass produced, and even circulated at 10 miles an hour, they soon entered the public domain as familiar and affordable items. The book offered every individual knowledge without an intermediary and efforts to preserve the theocratic information monopoly through censorship and repression did not prove effective. Europe was turning out about a thousand titles per year by the middle of the 15th century. By the middle of the 20th century the figure was nearly 120,000 titles annually. (*23*)

The emergence of the book as a prime source of public information touched all areas of intellectual life—including, and perhaps particularly, science. Although scientific knowledge was comparatively meager until well into the present century, it was nevertheless a potent stimulus to those exposed to it for the first time, and the ability of the cognoscenti to share information resulted in a rising level of scientific knowledge which, among other things, led to still more efficient methods of storing and disseminating knowledge. With the rapid expansion of the frontiers of knowledge came the need for specialization. (*24*) The pursuit of knowledge and ideas is a never-ending process. The more one knows of a field, the more there is to know. As a result, specialties become narrower and narrower and represent an even smaller proportion of the total fund of knowledge. As this process continues the specialist comes, as it were, to know more and more about less and less, and over time the gap between his general knowledge and that of the lay public becomes smaller. As his relative knowledge decreases, so does the overall societal value of the specialist, since his field of work applies to an ever smaller segment of the population.

In the last 30 years, however, there has emerged a variant of specialism based not on occupation but on groups of people brought together from various occupations around a common interest: what Pierce refers to, appropriately enough, as "communities of interest." (*25*) Obviously, there is nothing new about people having interests outside of their work. What is new, however, is the appearance of such people in ever larger numbers, the variety of their interests, and the breadth and depth of information readily available about these interests.

The most clearly identifiable community of interest is probably the sports fan, the follower of a team, the spectator. Baseball was the first mass spectator sport and the spread of professional teams in the major leagues followed the availability of speedy rail transportation which made it feasible for teams from different cities to play each other on a regular basis. Electronic communication played an equally important role in baseball's development by letting the home fans know how their team was doing on the road. This sustained interest in the game and stimulated the sales of newspapers carrying the results.

The sports writer emerged as a specialist within journalism, an expert to keep the fans informed and to interpret the events he reported. Yet when one seeks to identify the basefall fan, he cannot be categorized by educational level, union membership, a particular skill, or any specific point of view. This is so because the fan population cuts across demographic lines and is ever changing.

People develop and lose interest over time so the community of those interested in the sport is quite fluid. Groups of people find in baseball different points of interest: Amateur statisticians love its capacity to generate trivial data; small boys find in it a source of heroes; and increasingly it has become a lucrative occupational model for black and Latin youth. (*26*) Small boys, data buffs, and blacks may have little in common except baseball, but this data interest alone identifies them as a community, a target consuming population for those who sell newspapers, publish sport magazines, or manufacture athletic equipment.

It is a central argument of this essay that the development and proliferation of communities of interest since the end of World War II are functions of the growth of mass communication, especially television, and that the juxtaposition of interest communities and occupational specialties creates consumerism.

CONSUMERISM: THE MESSAGE OF THE MEDIA

Nearly all the households in the United States have at least one television and these receivers are in operation some 6 hours per day or 42 hours per week. A typical citizen spends 15 hours each week

exclusively watching television, more time than he spends doing anything else except sleeping or working. (*27*) On any given day, 65 percent of the U.S. population spends some time watching television, and over a 1-week period the figure rises to 87 percent. (*28*) The 1975 Super Bowl football game attracted no less than one-half of the entire population between 5 and 65 years of age (*29*), and an average prime time (8 p.m. to 11 p.m.) viewing audience approximates 40 million people. Children spend an inordinate amount of time in front of the small screen. It is estimated that by the time a child graduates from high school, he or she will have devoted some 22,000 hours to television but only 12,000 hours to formal education. (*30*)

Not only do people spend vast amounts of time watching television, their viewing habits seem to have little to do with education, income, race, or other demographic characteristics. Indeed, one of the most remarkable things about television is its uniform penetration of all segments of the population. In an extensive survey carried out in 1970, Bower (*31*) found that lower-income people watch more television than the affluent but that if one controls for income, viewing habits do not vary significantly with education (although the better-educated complain more about what they watch). These findings are supported by the work of Greenberg and Dervin (*32*), who found also that apparent racial differences in viewing habits vanish once income is held constant. Other findings: Television ownership is unrelated to income (unlike other forms of media), and lower-income persons are more likely to rely on television as their principal source of information. Others have pointed out that disadvantaged children spend twice as much time watching television as more affluent children. (*33*) The preference for television among low-income people substantiates the claim that television is unique among the mass media in that it does not disfranchise the poor. (*34*)

Television's critics have blamed it for all kinds of social ills, but its proponents regard it as the public's only means of keeping abreast of the information explosion. (*35*) Those who argue that the effects of mass communication are trivial point to studies that demonstrate that people are more likely to be persuaded by other people than by media and that the role of mass communication is essentially entertainment—at best harmless escapism (*36*), at worst an opiate of the people controlled by powerful forces intent on defending their own interests. (*37*) Nevertheless, in spite of these disclaimers, people continue to behave as though mass communication, particularly television, does indeed exert a great influence on human behavior. Advertisers happily spend $214,000 for each minute of commercial time during the Super Bowl broadcast. (*38*) Politicians jockey with each other for television coverage and spend millions on TV spots. Parents and psychiatrists have been fighting a running battle with the networks for years over the content of commercial messages directed at children. (*39*)

Debate over the effects of television is blurred by a tendency to equate television with advertising. Thus, politicians try to buy elections through clever use of television; advertisers attempt to subvert children by means of endless commercials; and the banal content of television programs is attributed to the dictates of Madison Avenue. While each of these arguments is backed by much substantiating evidence and each is probably correct to some degree, this preoccupation with commercialism obscures what undoubtedly is television's most important contribution. Television, for better or for worse, has given the entire American populace a common data base: All Americans—bank presidents, stevedores, and rural tenant farmers alike—now share a vast pool of ubiquitous identical information.

In *Understanding Media,* Marshall McLuhan (*40*) argues that the growth of political units spanning large geographic areas is dependent on a communication system capable of keeping the seat of government informed of happenings at the periphery. The acceleration of information flow tends to reinforce centralism. Influence begins to shift from center to periphery, however, when information moves so fast that there is no knowledge gap between the periphery and the central authority. The simultaneous existence of the same information everywhere at the same time creates a world "whose center is everywhere and whose margin is nowhere . . . on Spaceship Earth there are no passengers; everybody is a member of the crew." (*41*)

Television seems to have created such a universal information system largely because it is the first medium to appeal to those whose normal sources of information are nonprint sources, almost always

word-of-mouth. However, the system falls somewhat short of McLuhan's description. Up to now, because of high production costs and the need for large audiences to attract advertisers, television programming has been designed to appeal to what its critics refer to as "the lowest common denominator." As a result, the general data base provided might be likened to the Rio Grande River: It is a mile wide and an inch deep. For example, the women's rights movement is brought to public attention in newscasts and programs that portray the issues in the simplest possible terms. Advertisements deal with the subject indirectly—almost subliminally—by showing father changing diapers (the product advertised) while mother is at work, or by extolling the benefits of life insurance for working women.

In addition to the need to appeal to a broad, general audience, television is also limited by its inability to transmit information that does not lend itself to visual presentation. Television is incapable of translating much of what appears in the print media. Novels may lend themselves to a television treatment, but many, if not most nonfiction works are difficult to present in a visual form. Another serious limitation is the problem of information retrieval and portability. The television image appears on the screen for 1/30 of a second and then is lost forever for all practical purposes.* Information cannot be retrieved; it can only be repeated. By contrast, books, periodicals, and newspapers are easily stored, and the information they contain is readily available. The book is also portable. One takes a book along; one must go to the television receiver.

In spite, or perhaps because, of these constraints and limitations, television has been enshrined as the fountainhead of mass culture. If one accepts the definition of high culture offered by Shils (*42*), it is clear that mass culture as it comes through the small screen is an aberration, the retarded child of a sophisticated parent. Shils says "refined culture is distinguished by the seriousness of its subject matter, the centrality of the problem with which it deals, the acute penetration and coherence of its perceptions, [and] the subtlety and wealth of its expressed feeling." Television, on the other hand, is distinguished by the extent to which it dilutes serious subject matter, the peripheral nature of the problems it depicts, the superficiality and foolishness of its perceptions, and its all but total lack of subtlety. Despite this, one must agree with Shils' position that mass culture brings to the bulk of the population a dimension not present before television's emergence. (*43*) In addition to its silly programs and offensive commercials television exposes people to ideas and concepts they would not otherwise experience.

In the midforties, Lazarsfeld (*44*) postulated a two-step theory of communication, suggesting that the effect of mass communication is mediated by intervening opinion leaders who, in turn, influence those who look to them for cues. There is general agreement among students of communication that this theory is greatly oversimplified (*45, 46*) and that people seek information from different sources for different problems. Beal and Bohlen (*47*) performed a major service when they summarized three dozen studies dealing with the process of adoption of new ideas or new products. They identified five progressive steps, including the most relied upon source of information at each step. This was presented as a table by Lazer and Bell (*48*) and modified here as Table 2–3. The table demonstrates that the primary role of mass media is to create awareness and to generate interest, and that people rely principally on the influence of peers and friends in the evaluation and adoption of information. It should be remembered, however, that notwithstanding the superficial level of its effect, it is television's ability to generate awareness and provide some information which has resulted in the rising data base of society as a whole.

When television became the dominant general medium, each of its predecessors assumed a more specialized role.* Radio has become a background medium devoted to music and news. The general interest periodicals like *Life*, *Look*, and the *Saturday*

*This should not be interpreted to mean that such will always be the case. Better retrieval methods exist today but are not in wide use.

*McLuhan observed that obsolete media tend to become art forms (1964. *Understanding Media*. Signet, p ixff). Comic books are now quite acceptable as "pop art" and old, invariably black and white, films are regarded as pinnacles of the cinematic art. Similarly, black and white television shows from the late fifties are cited as paragons of entertainment. Yet those same shows prompted Newton Minnow's characterization of television as a "wasteland."

TABLE 2–3. The Importance of Information Sources During the Adoption Process

Information Source	Awareness	Interest	Evaluation	Trial	Adoption
Mass media (radio, television, newspapers)	1	1	4	4	3
Friends, peers	2	2	1	1	1
Expert sources (books, school periodicals, newspapers)	3	3	2	2	2
Salesmen	4	4	3	3	4

Evening Post vanished and were replaced by such highly specialized magazines as *Psychology Today*, *Ms.*, and *Money*. It is to these specialized periodicals that people look, after friends and peers, for information in depth. Newspapers play a dual role. A few, like the *New York Times*, provide information in considerable depth. Most local papers, however, provide little more than advertisements, gossip, features, sports, and comics. (*49*)

Information in depth characterizes the evaluation and trial steps of the adoption process. Evaluation and trial represent a testing of the idea to see if it conflicts with the beliefs of one's friendship and peer groups. In this sense, such individuals and groups represent the opinion leaders of Lazarsfeld. However, the evaluator influences friends and peers perhaps as much as they influence him. In other words, every group has its innovators and early adopters. Once adopted, the idea becomes a part of the individual's set of attitudes, opinions, and beliefs. Obviously, the friendship-peer complex is dominant here since ideas that deviate strongly from those of the reference group imply a shift to another group whose ideas are closer to the newly adopted ones.

The friendship-peer complex of shared opinions and ideas can be the beginning of the communities of interest which tend to develop in areas that affect large numbers of people. There is not much of a community of interest relating to physical chemistry or biophysics but these subject areas might be affected by the community of interest whose interest lies in social welfare and the allocation of resources. Social movements such as civil rights for women and minorities represent the coalescence of communities of interest formed around more specific issues, such as jobs, education, or segregation of public buses. The existence of a community of interest does not imply universal or even majority acceptance of its point of view. The movement to change children's television is backed by one of the most powerful communities of interest even though, according to the Association of National Advertisers, 82 percent of mothers like children's television just the way it is. (*50*) What matters is the relative neutrality or indifference of those outside the community of interest. Even if we are to believe the advertisers, the finding has relevance only if this 82 percent were actively opposed to the desires of the active minority.

The development of communities of interest is a major stimulus to the growth of all media. The carriers of information play an important role in keeping consumers in touch with each other. Between 1950 and 1970, telephone use surged upward, with the steepest increase in toll calls and overseas calls. The mails grew steadily but less spectacularly over the same period. (*51*) The community of interest demand for information and the emergence of the paperback greatly stimulated the publishing business. Almost 6000 new books in new editions appeared in 1945, a figure which had increased sixfold by 1970. (*52*) Today a successful book need reach only a small segment of the population. Its appeal to a particular community of interest will usually assure sufficient sales to realize a profit. The number of periodicals rose from about 6800 in 1950 to more than 9000 in 1970. (*53*) While magazines like *Time*

and *Newsweek* captured the more affluent professional and managerial heads of household (*54*), there were plenty of readers of the more specialized periodicals such as *Black Enterprise* (with a circulation of 1.6 million), *Apartment Life* (2.0 million), *Scientific American* (2.3 million), and *Prevention* (4.6 million). (*55*) The growth of these various media occurred coincident with the spectacular growth of television, which began around 1950. Indeed, Maisel (*56*) has pointed out that the maximum growth of television occurred between 1950 and 1955 and that between 1955 and 1970 the growth rate of television was actually less than that of other media. (*56*)

The fundamental role of television in our society has been to provide all segments of the population with uniform exposure to new ideas and information. This process facilitated and was itself facilitated by rising educational levels which increasingly included minorities and women as well as traditional white male constituents. (*57–59*) Television has revolutionized communication by letting people see events for themselves rather than learn about them only through the descriptions (which may or may not be objective) of others. This, plus the ubiquity of the medium and its electronic speed of transmission, makes it increasingly difficult for Government, industry, or other interest groups to promote a unilateral point of view with any degree of success. The prime example of this is the war in Vietnam. Even though government achieved partial control over what would appear on television by restricting the geographic bounds of onsite camera crews, it proved impossible in the end to convince the public that involvement in Southeast Asia was vital to our national security. How could Washington talk of ending the war when each nightly newscast showed rice fields, villages, and provincial capitals changing hands on a regular, almost ritualized basis?

As communities of interest develop from information first seen on television and complemented by specialized media, they usually begin to use the same media channels in their attempt to influence the behavior of government. For example, the purpose of many, if not most, demonstrations is to get television coverage. Newspapers, periodicals, and books deal with the issue in depth while telephones and the mails are used to maintain contact between individuals on both sides.

As communication between them increases so does the public's expectation of government. The public becomes less tolerant of government secrecy and, in the face of increasing demand for information by the various communities of interest, secrecy is difficult to achieve. The Watergate scandal is a case in point. Far from being satisfied by the almost daily revelations concerning this unfortunate episode, the public continued to demand more and more information until finally the specific demand arose that the President be impeached. At this point, the community of interest became a consumer interest group.

Consumer interest groups develop from communities of interest and their goal is to alter the services or products produced by a specialty group in a way that benefits the consumer. They evolve naturally from the data base built up by the parent interest community. The successes of the consumer movement, although less than some would have hoped, have been impressive. In the late 1960s, about 10 years after the rise of television, a number of major consumer bills were passed by the Congress and signed into law. These included: the Fair Packaging and Labeling Act, the Child Protection Act, and the Traffic Safety Act (1966); the Flammable Fabrics Act (1967); the Wholesale Meat Act, the Consumer Credit Protection Act, the Interstate Land Sales Full Disclosure Act, and the Wholesale Poultry Products Act (1968); the Radiation Control for Health and Safety Act (1969); and the Poison Prevention Packaging Act (1970). In 1960 no State had an office of consumer affairs; in 1973 all 50 States had such offices as did 25 counties and 110 cities. (*60*)

Bills introduced into Congress in 1975 include legislation to create a Federal consumer protection agency; to provide a national no-fault auto insurance law duplicating those now operating in 15 States; to facilitate class-action legislation; to require proof of advertising claims; to require public disclosure of results of mandatory testing of manufactured products; and to assist States and local governments in the establishment of better consumer grievance machinery to handle small claims. (*61*)

The most venerable of our institutions have come under consumer scrutiny. No school may deny students or parents access to student records under the so-called "Buckley Amendment" which took effect January 1, 1975. (*62*) College athletics are under

pressure for slighting women. (*63*) Students file suits against their colleges on grounds of deceptive advertising, to reverse expulsion orders, or to force the rescheduling of canceled courses. (*64*) Educational program requirements are changing to make things easier for the student-consumer. A television series called "The Ascent of Man" became in effect an off-campus course as more then 200 colleges offered credit to 25,000 viewer-students. (*65*) A major New York college offered a program shortening the time it takes to become a physician from 8 years to 6 years after high school graduation and promptly followed this with a similar program to shorten the pathway into law. (*66*) On September 20, 1974, an Albany, New York, man became the first American to earn a bachelor's degree without any college credits at all. The degree was awarded by the State University of New York after 9 years of self-study and successful completion of various qualifying examinations. Total cost to the student was only $400. (*67*)

Not surprisingly, television itself is a perpetual target of consumer attack. A program dealing with the sexual molestation of a 14-year-old boy was rejected by several stations not because irate parents objected to the subject matter but because homosexual rights groups felt the program was unfair. (*68*) The Federal Communications Commission (FCC) voted in 1974 not to renew the licenses of three Alabama television stations because of citizens' charges that the stations discriminated against blacks in hiring and programming. (*69*) In the United Nations, Communist and Third World countries have called for worldwide regulation of television because of the global implications of satellite communication. (*70*)

HEALTH BEHAVIOR AND MASS COMMUNICATION

Most health professionals regard mass communication as antithetical to beneficial health behavior. Somers stated it succinctly when she wondered whether lifestyle modification was possible with "so many value-producing forces, including television advertising . . . lined up on the other side." (*71*) The close identification of television with the advertising industry is largely responsible for this view, and there is much to suggest that it is well founded. In a study of fifth- and sixth-grade children, Lewis and Lewis (*72*) found that 208 children believed 70 percent of 781 commercials and that low-income children were more credulous than their more affluent classmates.

Television messages rarely if ever mention health. They are directed instead at incorporating the desired behavior, for example, use of vitamins, into the prevailing stereotypes of the child's world. Thus, ads aimed at girls focus on beauty and popularity while those directed at boys stress size, power, noise, and speed. (*73*) Small children have no concept of commercials and tend to regard them as part of the program. (*74*) While credence in commercials declines rapidly as the viewer gets older (*75*), the potential for deception is always present in the television commercial. Schwartz (*76*) points out that the visual dimension of television ads can produce an effect quite unrelated to their verbal message when, for example, they leave a child with the impression that aspirin is something he should take to have a good time. A public service ad sponsored by Mars candy in a children's show correctly identified plaque as the cause of tooth decay and urged the viewers to team up with the toothbrush and the dental floss, the enemies of plaque. About $300,000 was invested in the ad which never mentioned any connection between the formation of plaque and the consumption of candy. (*77*) Diet soft drinks advertised as having only two calories per 12-ounce can also contain up to 108 mg. of sodium. (*78*) The latter fact is never mentioned, but has serious implications for the obese hypertensive on a low-salt diet.

The health behavior of lay people is heavily influenced by the physician, who is himself the target of advertisers wishing to persuade him to endorse a particular product. Over a 10-year period, McNeil Laboratories (a subsidiary of Johnson and Johnson) has promoted the analgesic Tylenol to physicians who often recommend the product by name to their patients. (*79*) As a result this once obscure over-the-counter preparation is now a serious challenger to such sales leaders as Anacin and Bayer Aspirin. What makes this technique so advantageous is its cost: Tylenol spent less than $2 million in advertising in contrast to Anacin's $29 million and Bayer's $20 million. No doubt encouraged by Tylenol's success, Pfizer has established a new division to focus its

efforts on the pharmacist rather than the public. (*80*)

Studies linking bad habits of one kind or another to television have not taken the controversy out of television's role in either health or the society as a whole. For example, does television really induce reliance on medication when the medication advertised is aimed either at such trivial complaints as dandruff or bad breath, or such non-illnesses as "tired blood" or "the old one-two"? No one really knows, but the value of the information can be judged by the results of a week-long study of health information on television in which Smith et al. (*81*) found that while only 7.2 percent of time was devoted to health-related content, 70 percent of the material presented was inaccurate, misleading, or both.

One of the most impressive things about advertising is the amount of money spent on it. The United States spent $23 billion on advertising in 1972, nearly 2½ times more than the combined total of the next five countries. (*82*) Of this total, $4 billion went to television advertising. This is 1.4 times the combined television advertising expenditures of the other 62 countries in the survey. At $110, per capita advertising expenditures in the United States approximate the per capita income of some Third World nations.

In 1973, almost $200 million was spent on cigarette advertising. Yet sales were sufficiently high that advertising expenditures of $22 million for Winston, the leading brand, cost the R.J. Reynolds Company only 5 cents per carton sold. (*83*) During 1973, Warner-Lambert and Warner-Chilcott spent $142 million to promote such products as Super Anahist, Bromo-Seltzer, Listerine, Gelusil, and Sinutabs. Schering-Plough spent $52 million on Di-Gel, Coricidin, St. Joseph Aspirin, A & D Hemorrhoidal Suppositories, and other products. (*84*) All together the 21 leading drugs and cosmetic manufacturers spent $1.2 billion on advertising in 1973.

In contrast, the first year authorization of $7 million for the National Health Information and Promotion Act of 1975 is approximately 30 percent the amount spent to advertise Anacin tablets. Even in the most ambitious health education campaign ever launched, antismoking television commercials were outnumbered four-to-one by cigarette advertisements. (*85*) Food manufacturers and processors also spend vast sums on advertising. General Foods, for example, spent $180 million in 1973. Fast-food chains are rapidly expanding their advertising efforts, as witness, McDonald's $47 million promotion budget for 1973. (*86*) Much, if not most, food advertising is devoted to high carbohydrate snack foods which can be properly considered antihealth.

Television advertising can cost as little as $100 or less for a 30-second local spot or as much as $30,000 to $50,000 for a 30-second national spot in prime time. (*87*) For that price, however, the advertiser is virtually guaranteed an audience of 10 to 14 million. It is indeed a sobering thought that the entire $7 million first-year authorization for the National Health Information and Promotion Act would purchase only 70 minutes of prime time television.

One might ask what manufacturers hope to gain from advertising. The answer is, less than might be expected. For example, Winston, the best-selling cigarette, commands only 16 percent of the total market and spends more than $22 million annually just to maintain that position. With more than 20 competing brands, Winston does not aim for an increase in market penetration of 25 percent, 10 percent, or even 5 percent. The manufacturers are in fact delighted with a 1 to 2 percent sales increase. (*88*) A 1 percent gain is worth $16.5 million in sales. Even for the slowest seller in the R.J. Reynolds' line, Vantage, a 1 percent increase will produce $1.3 million in additional sales. Similarly a 2 percent increase in the market for the assorted products of Schering-Plough means more than $7 million in sales. These modest sales increases require only that about 1 percent of the Nation's 52,000,000 smokers respond favorably to the advertising campaign. With such a response the ad campaign will be considered a success, even if it offends the vast majority of the viewing audience.

The modest return expected from product advertising is in marked contrast to the expectations of those who have used media to alter health-related behavior. Seidenfeld (*89*) expressed disappointment that even after Government information campaigns, only 25 percent of the public had received the entire series of four polio shots while 60 percent had had at least the first of the series. In a similar vein, O'Keefe (*90*) administered questionnaires to 621 college students and 300 people from a general population to explore attitudes toward smoking resulting from the antismoking commercials on tele-

vision. He, too, was disappointed. He found that 34 percent of students were smoking less as a result of the commercials and that 22 percent had stopped smoking altogether, at least temporarily. Robertson et al. (91) mounted a television campaign to encourage automobile seat belt use. Five different commercials were shown in three communities over a 9-month period. The five commercials were broadcast a total of 943 times. When compared with the controls, the group which had been exposed to the commercials showed no increase whatever in seat belt use; this was in spite of the fact that the commercials were written and produced by an advertising agency which "had a record of success in advertising commercial products."

The failure of mass communication to please these viewers is related to advertisers' failure to recognize two fundamental principles of using the media to induce behavior change. First, *one's goals must be realistic (and therefore limited)*. Second, *one must not lose sight of the interrelationship between dose and duration*. If advertisers are pleased with 1 and 2 percent sales gains, it seems unreasonable for health people to expect a 100 percent success rate or even a 25 percent success rate. Indeed, our knowledge of this area is so meager that it is probably inappropriate to define success at all until trial and error suggest what is and is not possible. In this regard, the sustained use of television and other media to encourage behavior change relating to weight, diet. smoking, and exercise has shown some promise in a health education experiment being conducted by Farquhar and MacCoby. (*92*) After 1 year, their results suggest that use of media, though far less effective than face-to-face contact, does help to stimulate beneficial behavior change. O'Keefe was dissatisfied with reactions to antismoking commercials, but he never identified what percentage he would have considered adequate, and it is difficult to define success without a clear idea of failure. In addition, his survey was carried out before the antismoking campaign reached its peak. In fact, one can make a strong case for the success of the antismoking commercials. Whiteside (*93*) points out that at their peak in 1970, the antismoking commercials were accompanied by a noticeable decline in per capita cigarette consumption. In addition, cigarettes contain somewhat less tobacco now than they did in 1970 and tar and nicotine content have also declined. More smokers (80 percent) have tried to stop smoking than ever before, and there is a marked trend toward assuring nonsmokers a smoke-free environment. New York City and the State of Oklahoma have recently passed ordinances banning smoking in elevators, supermarkets, and other public buildings, and nonsmoking sections are now a regular part of air transportation. There were so many contributory factors in the smoking situation that it is folly to ascribe all of these changes to the television campaign. Yet the importance of this most ambitious effort cannot be overlooked. The fact remains that smoking was in a decline while the antismoking ads were running and began to increase again only after they stopped.

The antismoking campaign exemplifies the importance of the dose-duration relationship. The ads began in 1967 and continued for almost 4 years, accompanied by stories and articles in the print media. As advertising campaigns go, this is not very long, and the impact of the commercials was becoming apparent only as they were leaving the air. The only health education campaign that approaches the antismoking effort is the continuing publicity about cholesterol and heart disease. This effort is largely inadvertent, uncoordinated, diffuse, and general, but it has been in existence for almost 10 years now and has played an important part in steering dietary habits away from foods with high saturated fat content. These dietary changes probably played some role in the recently observed downturn in deaths due to heart disease, although the specific causes of this decline are unknown.

How long must a campaign be continued to be effective? Again, we do not know. Sustained efforts have been few and there is simply not enough data available to allow the kind of analysis needed to reach a rational conclusion. The five messages used in the 9-month seat belt campaign may well have failed because of dose, duration, or both. First, 9 months is probably not long enough to induce seat belt use no matter how persuasive the software. Second, actual exposure during the 9-month period was rather marginal. The commercials were shown 943 times but only 187 or 20 percent were shown during prime evening time when males are most likely to watch. In fact, male use of seat belts was even less satisfactory than that of females in this study.

It is also likely that the use of five very different messages over the relatively brief 9-month period allowed too little time for the full impact of any one message to manifest itself. Television is poorly suited for information retrieval, and for this reason the same message must be repeated over and over again.* No doubt different messages appeal to different groups within the target population. In other words, there is a pool of susceptibles for each message, and the optimum use of a message calls for its repetition until the susceptible pool is exhausted. While scare techniques are no doubt less effective than peer pressure, it does not follow that peer pressure is the right approach for the entire population. In all probability, each of the five approaches to encouraging seat belt use reached a segment of the population; the question is, How long does a message have to run to exhaust its particular audience? This is not known, but when the message is shown and who is watching at that time obviously have some bearing.

Assessing the effects of a television advertising campaign on alcohol misuse, Louis Harris and Associates (*94*) pointed out that one of the problems of television advertising is that only 60 percent of adults drink but ads cannot be placed to reach only drinkers. This is another way of stating a fourth principle: *Television is a general medium and cannot be directed with great precision at a particular population group.* Particular television programs do have identifiable constituent audiences. (*95*) It is possible to separate out viewers of specific programs by age and sex, sometimes by race and income, but not by health risks. Do alcoholics watch different shows from nondrinkers or do they watch what other people of their age and sex watch? It would be of great value to know more about the specific television habits of the poor in view of the fact that television is their preferred medium and the best way to reach them short of face-to-face contact.

The American people spend $11.5 billion annually for health problems arising from cigarette smoking. (*96*) Yet Congress, which is obviously concerned with the costs of health care, continues to provide price supports for tobacco in amounts that have greatly increased over the past 10 years. (*97*) This contradiction was pointed out in an editorial appearing in the *Journal of the American Medical Association.* (*98*) In the midsixties, each dollar spent on cigarettes was divided in approximately the following way: tobacco companies 34¢; Federal Government 19¢; State and local governments 11¢; distributors and retailers 11¢; wage earners in factories 13¢; foreign producers 4¢; domestic tobacco farmers 7¢. (*99*) Aside from the tobacco companies themselves, therefore, thousands of farmers and wage earners depend on the use of tobacco products. The tax monies generated by tobacco sales at the local, State and Federal levels would presumably have to be raised elsewhere if the tobacco source ceased to exist. One might argue that if we were free of the cost of sickness arising from cigarette-induced diseases, the tax money would not be missed anyway. Perhaps. But monies saved because of a lower incidence of disease would not necessarily or even probably find their way to the services and activities now supported by tobacco taxes.

The cholesterol publicity mentioned above has produced a marked decline in egg consumption. Between 1972 and 1973, for example, a 5 percent decline in egg consumption reduced the profits of egg producers by $30 million. (*100*) Blaming biased researchers employed by their rivals, the cereal manufacturers and the producers of polyunsaturated oils (*101*), the egg producers counterattacked with advertisements containing the somewhat misleading statement that "there is absolutely no scientific evidence that eating eggs in any way increases the risk of heart disease." (*102*) It should be remembered, however, that this is the response of people who must balance a very real threat to their livelihood against someone else's estimate of a possible health threat to a statistical population.

Removing harmful products from the market by means of publicity campaigns or Congressional pressure is not easy, and the enormous sums of money required to make the most effective use of television would seem to put this communication tool beyond the means of public health agencies. Direct pressure on the television networks probably would involve constitutional problems that are best avoided, but one successful approach is that already carried out in the antismoking campaign. The Federal Com-

* In advertising directed at children, the repetition of the message is a positive advantage, because the childhood viewing population is continually changing through the addition of new viewers to the audience base and the subtraction of those entering older age groups.

munications Commission decided that the fairness doctrine applied to cigarettes and that because of the health hazard antismoking messages were needed to counterbalance cigarette advertising. This, however, was a special situation and the FCC cannot be expected to take such action when matters less clear-cut than smoking are at issue. Public service messages are a valuable tool, but their value is limited. For example, the $570 million made available for public service campaigns in 1974 by the Advertising Council (*103*) was about 14 percent of the total amount spent on television advertising in 1972. Also, public service time must be divided among a host of public service interests such as prevention of forest fires, cleaning up the environment, and solicitation of funds for a number of nonprofit concerns. There is no doubt that health workers should regard the Advertising Council as a source of assistance, but with the need for sustained effort over many years, the utility of this assistance is strictly limited.

A solution to this problem might be the creation of a mechanism through which the people who spend $23 billion on advertising annually will simultaneously pay for the dissemination of health information. In the fall of 1974, the U.S. Congress enacted legislation that liberalized regulations concerning the development of tax-sheltered retirement plans for the self-employed. Banks immediately began to advertise on television and in the print media to inform the public about the new legislation and to urge them to use their banks in setting up a retirement plan. The Federal Government had no need to publicize the new law; the banks who stood to profit from the law readily undertook the task of disseminating information about it.

This brings us to a fifth principle. *Because of the nature of media in the United States, it is easier to introduce a beneficial product into the economy than it is to remove one that is harmful.* Removing such a product is difficult when it affects the economic well-being of a special interest group; it is even more difficult when those who would benefit from its removal cannot be identified readily. For example, most smokers do not get lung cancer and while those who are destined to do so would perhaps benefit from the removal of cigarettes from the market, these individuals cannot be identified beforehand. Risk is tantamount to uncertainty regardless of the strength of its statistical association with disease.

Perhaps the best way for health agencies to enhance the cause of consumer health education through the resources of advertising is to provide the advertiser with an endorsement usable in promoting the product. The endorsement of Crest toothpaste by the American Dental Association helped make Crest the best-selling toothpaste and stimulated the manufacture of other toothpastes containing fluoride. If such a system were to be more widely used, endorsed products would have to be reviewed periodically as a requirement for continued endorsement. Endorsement would depend on the validation of beneficial claims and a determination that the product was free of other harmful ingredients. Most diet sodas, for example, would be certified with qualifications because their high sodium content is a hazard to hypertensives and thus diminishes the value of the fact that they contain only two calories per can. Recently introduced cholesterol-free egg substitutes would seem to deserve endorsement unless they are found to contain some harmful ingredient. In addition to egg white, vitamin D, and nonfat dry milk, egg substitutes contain some 14 other ingredients, each of which would require evaluation.

The concept of realistic goals suggests that endorsements be given not only for beneficial products, but also for those that are less harmful than others. For example, smokers who cannot quit should be encouraged to smoke brands low in tar and nicotine. It is true that there is little hard evidence at present that low tar and nicotine cigarettes reduce any of the health hazards associated with smoking, but lack of evidence is no excuse for paralysis. As Chalmers so aptly puts it, "Once a physician believes that therapy may be effective . . . or that its beneficial effects definitely outweigh its deleterious side effects, he is compelled . . . to use such therapy until convinced that it does not or will not work." (*104*)

The endorsement approach could have a number of beneficial effects: It could stimulate the development of beneficial products and put harmful competing products at a disadvantage; it could increase general knowledge about health as new products related to health were introduced; and it could help to enlist previously unavailable monetary resources in the cause of health.

The idea of product endorsement is similar to legislation presented to the 94th Congress which would authorize the National Bureau of Standards to test products and release the results to consumers. Manufacturers would be permitted to use the results in advertising if they so desired. (*105*) Presumably some of the products tested under this proposed legislation would be health related.

Meeting the costs of the certification process deserves careful study. It is certain, however, that a direct transfer of funds from the potential advertiser to the certifying body is highly undesirable. Instead, the endorsing agency should be one which enjoys the highest possible prestige and is totally free of ties to advertising or business interests. The medical specialty societies seem to be the best choice, primarily because, as we will see in the next chapter, the forces of consumerism tend to move the consumer closer to the physician and the endorser role in this context becomes another way to overcome the adversary stance of organized medicine and consumer groups.

The final principle is that *television is the most effective communication technology available to health education because it is one of the best ways to reach low-income groups*. The importance of television implies that optimization of its potential should be one of the highest priorities of health providers. This is far from the case at present. Much of the problem has been financial, but even with a system of endorsements, better use of the Advertising Council, Federal intervention, or some other mechanism to help health agencies make more use of television, health providers will need greatly improved communication techniques.

If health education is ever to have a major influence on the health status of the American population, it must use television, particularly if it is to reach those people who have the most to gain from additional knowledge of beneficial health behavior. Much can be learned from the advertisers who long ago learned that telling people that a product is good for them is not always the best approach to sales. For example, the only reason for the existence of a cholesterol-free egg product is that the absence of cholesterol is beneficial to the consumer and yet the advertisements downplay this aspect and emphasize the similarity between their product and the real thing. In other words, they are selling eggs, not health.

The fact is that we do not know the most effective way to bring specific health messages to public attention, and the experience of general advertising is probably of limited value. Advertisements often promise easy solutions for everything from greasy dirt to bad breath. Much health education, on the other hand, often asks people to change their lifestyle and give up ingrained habits to reduce risks and perhaps forestall or prevent events that might or might not occur at some future time. To cope with this problem, we need to experiment with a number of approaches and, as has been suggested (*106*), evaluate them formatively as well as summatively. By carrying out sample surveys using alternative messages, we could determine the best approach to various population subgroups before the campaign ends. In this way, effective techniques could be introduced into general use as soon as they are identified.

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3

QUALITY IN MEDICAL CARE: CONSUMERISM AND CADUCEUS

"I die by the help of too many physicians."

—Alexander the Great, 323 B.C.

ORIGINS OF THE HEALTH CONSUMER

"Our immediate problem has therefore two aspects," wrote Abraham Flexner, "on the one hand, to strengthen these [better] institutions . . . on the other to crush out the mercenary concerns that trade on ignorance and disease." (*1*) Flexner's 1910 report to the Carnegie Foundation led to the closing of proprietary medical schools and to the establishment of a scientific base for medical education. Flexner emphasized high standards of accreditation, the interdependence of clinical medicine and the basic sciences, and the desirability of medical school affiliation with universities.

The closing of proprietary institutions and the rapid development of the university-based medical school had far-reaching effects. Medicine became the dominant arm of biological science, and its Newtonian approach to the workings of living organisms produced a vast amount of new knowledge of health and disease. In the field of therapeutics, the onslaught against bacterial diseases led to their eclipse as the major killers and the increasing availability of vaccines meant that at least some of the therapeutically intractable viral diseases could be prevented altogether. Infants and small children were the principal beneficiaries of success against infectious diseases and the decline in death rates among the very young led to spectacular increases in average life expectancy from 54 years in 1920 to slightly more than 71 years by the 1970s. (*2*)

The trend to specialization greatly accelerated as knowledge expanded. By 1973, the once-predominant general practitioner comprised less than 15 percent of the total physician population and, in addition, was less well trained and older on average than his colleagues. (*3*)

Meanwhile, the eclipse of infectious diseases left medicine to grapple with conditions of a chronic nature which, in contrast to infectious diseases, are often lifelong in duration, largely progressive and irreversible, cluster among middle age and older persons, and above all, require long-term continuous care. They are further characterized by high incidence and prevalence and by high mortality and morbidity. They are treated on a symptomatic basis because causation is poorly understood. The goal of therapy is to control, maintain, and rehabilitate; cure is rarely possible.

The rise of scientific medicine and the emergence of chronic disease required the development of support personnel to assist in patient care and in research. By the late 1960s, physicians comprised only 10 percent of the Nation's health workers; physicians, dentists, and nurses together accounted for less than 40 percent of the total. (*4*) Support personnel became increasingly specialized as the hospital became the epicenter of health care. If one considers birth, marriage, the birth of children, and death to be the signal events of life, the hospital's role in all but marriage testifies to its importance in the community. Until very recently, the historic roots of the hospital in the interconnected trilogy of religion, charity, and philanthropy permitted these institutions to pay very low wages to all personnel, including physicians in internship and residency training programs. In consequence, there developed a very wide gap between earnings of the top health professionals (physicians, dentists, administrators, and so on) and middle-level personnel and a smaller gap between the middle and the relatively unskilled lower levels. Of the 4.7 million workers in the health industry, about 60 percent fall into this lower level of service and clerical workers. (*5*)

The establishment of the American Medical Association (AMA) in 1847 marked the completion of the professionalization of the American physician. In a running battle against quacks and competing therapeutic systems which has never ended, the AMA emerged as the nation's most prestigious and powerful health organization by the beginning of the 20th century. By the time of the Flexner report, it was promoting higher standards in medical education together with a reduction in the number of practitioners. (*6*) The movement of the medical schools to a university base was accompanied by a reduction in the numbers of blacks and women enrolled. (*7*) Moreover, the growth of ancillary personnel resulted in a concentration of blacks in

low paying health service jobs. Blacks accounted for 22 percent of the practical nurses, 25 percent of the orderlies, and 19 percent of the health aides in 1970. In contrast, only 3.7 percent of physicians were black and the figure for registered nurses was even worse at 2.1 percent. (*8*) Although the vast majority of health workers are women, they comprise only 10 percent of the physicians and over 90 percent of the nurses, dieticians, dental hygienists, and health workers. (9) White women thus occupy the middle-level jobs while black women are concentrated at the lower levels.

Rising admission standards and limited medical school seats meant that physician output did not keep pace with demand as hospital utilization soared. The number of short-term general hospitals increased only 14 percent between 1950 and 1972 while admissions per 1,000 population increased 50 percent. (*10*) To meet the manpower demands of chronic disease care, the United States became an importer of physicians. In 1973, 44.5 percent of all newly licensed physicians were foreign medical graduates and the number of licenses issued in that year exceeded by 35 percent the total number of living black physicians ever licensed. (*11*) Admission of minorities and women to medical school has greatly increased since 1969, but less progress has been made by minorities in nursing and other middle-level professions. In most large urban centers, hospitals represent a major source of employment for the poor and the poorly educated. Existence of a vast number of low-level support personnel drawn from marginal elements of the population surrounds the physicians and other high-level professionals with a large, but often restless and dissatisfied, labor force in a relationship of total interdependence.

This large nonprofessional group of low-level employees is an important source of specific health information to the communities from which they come. Needless to say, in an industry as vast as health, the content of information flow often has little or nothing to do with disease but deals also with facilities, organization, financing, utilization, and manpower as well as communication between individuals relating to decrepit hospitals, long waits, high costs, or crowded waiting rooms.

A prominent journalist recently described the death of his wife after cardiac surgery. "My wife, Julia, is dead," he wrote, ". . . last summer she became, tragically and horribly, a one-line item in a category lacking accurate statistics . . . whose . . . victims have given rise to the saying: 'The surgery was a great success—but the patient died.'" (*12*) The author had been an observer of the health scene for years and had written a book entitled *The Plot Against the Patient* 8 years earlier. His article in a popular periodical expressed the view that his wife's case had been bungled largely because of medicine's lack of interest in patients and its excessive interest in technological virtuosity.

This critical article is characteristic of a prevailing view of the health industry presented by the media. The general dissatisfaction is augmented by the seemingly endless upward spiral of costs, as indicated in Table 3-1 (*13, 14*), coupled with discouraging data on mortality and morbidity, as shown in Table 3-2. Although per capita expenditures on health rose some 350 percent between 1960 and 1974, the change in health status of the population was minute. The crude death rate hardly budged, from 9.5 per 1,000 in 1960 to 9.4 in 1972. (*15*) To make matters worse, the stability of the crude death rate during this period obscured the fact that the death rate for young adults (ages 15 to 44) actually rose slightly. (*16*) Each dollar spent for health buys less and less in terms of longer lives and less illness. Indeed, on the basis of data from the 1960 census, Auster and his colleagues (*17*) concluded that each 1 percent increase in quantity of medical services brought a reduction in mortality of 0.1 percent. The situation is summarized graphically in Figure 3-1.

This graph is slightly modified from one presented by Fuchs. (*18*) It suggests that we are presently at point A, where additional dollars spent have very little effect on health status as measured in terms of mortality and morbidity. Growing concern with this state of affairs has focused interest on efforts to achieve a higher benefit-to-cost ratio than is currently the case. The fact that much higher levels of productivity are possible, as experienced at point B at lower levels of health status and expenditure, has intensified the sense of frustration among Government officials, health planners, and informed consumers. At point B, one realized greatest incremental change in health status for each dollar spent, that is, maximum benefit per unit of cost or maximum marginal product. It is worth noting that maximum

TABLE 3–1. Health Expenditures for Selected Years, 1950–74

Year	Total Amount*	Consumer Expenditures*	Per Capita Expenditure	% GNP
1950	12.0	8.4	$78	4.6
1960	25.9	18.8	142	5.2
1965	38.9	28.0	198	5.9
1970	68.1	40.9	328	7.1
1974	105.2	50.0**	496	7.8

*In billions of dollars.
**1972.

TABLE 3–2. Trends in Mortality and Morbidity, 1960–72

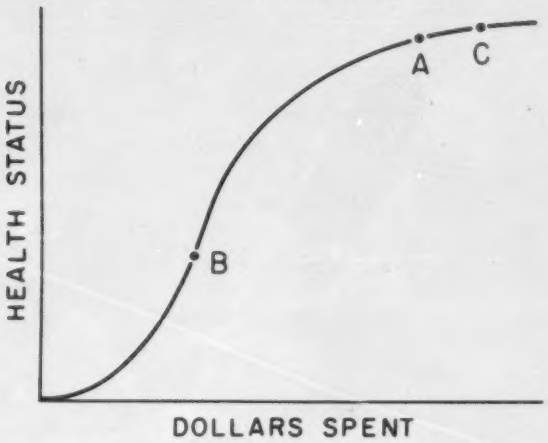
Average Life Expectancy at*	1960	1965	1970	1972
age 20 white male	50.3		50.3	50.5
black female	50.1			
age 40 white male	31.7		31.9	32.1
black female	32.2		34.2	34.0
age 50 white male	23.2		23.4	23.6
black female	24.3		26.3	26.1
restricted activity days**	16.2	16.4	14.6	16.7
bed disability days**	6.0	6.2	6.1	6.5
work loss days**	5.6	5.7	5.4	5.3

*Mortality data are for 1971.
**Days per person per year.

benefit-per-cost is not equivalent to maximum health status, the latter being the point at which the line BC turns flat, that is, point C, where no further increase in health status is possible (given current technology and practice). Fuchs points out that from the standpoint of the allocation of societal resources, dollars spent should not go beyond the point at which the social value of an additional increment to health equals the value to society of the additional dollars required to obtain that increment. Since such social optima are exceedingly difficult to identify in the real world (especially in the health care industry, where perfectly competitive markets do not exist), the relationship of our actual health expenditures to their optimum level is unclear. In any case, the data cited above indicate that we are approximately at point A. Obviously, we would prefer the level of productivity represented by point B, and this desire to achieve improved health status with lower expenditures is widely reflected in the mass media and in Government debate over legislation related to health.

With health expenditures approaching 10 percent of gross national product with no visible improvement in health status, it is not surprising that health has attracted public notice as never before. Health is news and no health matter is too private for full public disclosure. It was not always so. President Grover Cleveland underwent surgery for oral cancer in July 1893. The procedure was carried out in utmost secrecy aboard a yacht owned by one of his friends. The extreme secrecy was justified because

CONCEPTIONAL RELATIONSHIP BETWEEN HEALTH STATUS AND HEALTH EXPENDITURES, MIDDLE NINETEEN SEVENTIES



Source: Modified from V. Fuchs, Health Care and the United States Economic System, 1972

FIGURE 3–1.

"What the consequnces would have been had it been known at once we can only surmise and shudder." (*19*) When rumors appeared in the press 2 months later, they were vigorously denied by the principals involved, including the chief surgeon.

During the last year of his presidency, Woodrow Wilson was mentally incapacitated by a stroke for 2 months during which time a cloak of secrecy was wrapped around the White House, and the country was run by Mrs. Wilson and the President's physician. (*20*) The secrecy surrounding illnesses endured by national leaders was peeled away in the 1950s when President Eisenhower's health problems were widely publicized. However, during the presidency of John F. Kennedy, unconfirmed rumors of his various illnesses were ignored by the administration and de-emphasized by the press. In contrast, the mental health problems of the wives of Senator Edward Kennedy and Prime Minister Pierre Elliott Trudeau of Canada were openly discussed in the press, along with the phlebitis of former President Richard Nixon. Even a perfectly normal presidential physical examination appears on page one of the *New York Times*. (*21*) Throughout most of the fall of 1974, the public was given lengthy news coverage of the breast surgery of two famous cancer patients, the wives of the President and the Vice President. The trend to reveal all types of health problems for public view has been deplored as "medical voyeurism," (*22*) but breast surgery had hardly left the front pages before the *New York Times* followed up with an article concerning the extent of unnecessary surgery. (*23*) This article appeared in the press 4 days before its publication in the *New England Journal of Medicine*. (*24*) Indeed, it is no longer uncommon for medical news to reach the public before it reaches the scientific community. The results of a study finding that two drugs used to lower serum cholesterol had no effect on the mortality experience of victims of previous myocardial infarction appeared in the lay press almost a week before their publication in the *Journal of the American Medical Association*. (*25, 26*)

Increasingly, the press and television look to the health area as a fertile source of news. Feature articles describe low cholesterol diets for children (*27*); news articles cover such items as artificially inflated antibiotic prices (*28*), efforts to increase enrollment of women and minorities in medical schools (*29*), and intramedical debates over the allocation of research monies. (*30*) Psychiatry is criticized for its high costs and meager successes (*31*); fraudulent research is fully described (*32*); and a television show covers primate research in the field. (*33*) Above all, coverage of health care costs is a constant theme in all print media and in television.

The cost question is the stuff around which communities of interest develop. Rising health insurance rates, increased out-of-pocket expenses, and apparent abuses in various sectors of the health care system make health a major concern of the American people. Even the poor and the uneducated are better informed than ever on the subject by virtue of the fact that vast numbers of them are employed in the health industry and because of the constant television coverage to which they are exposed.

Consumer interest in health takes three forms: a noticeable trend to do-it-yourself medical care, efforts to orient medicine more toward the consumer, and demands for legislation to contain cost at no sacrifice to quality.

Young people have led the do-it-yourself movement. At one large New York City bookstore, more than 70 titles were on display in January 1975, all bearing titles like *The People's Handbook of Medical Care, The Home Health Handbook,* or *How to Understand and Treat Your Child's Symptoms.* Most are full of anatomical diagrams, lists of symptoms, and sections on amateur diagnosis. Some are very successful. In 1970, the Boston Women's Health Book Collective prepared *Our Bodies, Ourselves,* a compendium on female health and sexuality. It proved so popular that it was bought by Simon and Schuster in 1973 and may well become a perennial seller.

Meanwhile, general interest in health is so strong that do-it-yourself blood pressure machines developed by a California manufacturer are scheduled for installation in drugstores, schools, department stores, banks and supermarkets. (*34*) The Metropolitan Life Insurance Company is now promoting, for some kinds of insurance, a doctorless, virtually all-electronic physical examination that takes only 20 minutes. (*35*) An interest in cardiopulmonary resuscitation (CPR), growing out of increasing awareness of the value of emergency assistance to heart attack victims, is increasingly directed to gaining competence in CPR. Thousands of Americans, including housewives and high-school students, have taken CPR courses in recent years. (*36*)

Efforts to orient medicine more to the position of the consumer take several forms. First and foremost is a quest for information useful to the consumer-patient. Denenberg's *A Shopper's Guide to Health Insurance,* compiled while he was Insurance Commissioner of Pennsylvania, rates the 25 largest health and accident insurance companies doing business in that State. Using a rating system based on financial stability and loss ratios, Denenberg downgraded 15 of the 25 with the simple conclusion that they "do not rank as good buys." (*37*) The most prominent of consumer periodicals, *Consumer Reports,* has published numerous major articles relating to health in recent years. Subjects seldom covered before, such as laboratory tests, are now described and their high cost criticized. (*38*) The New York Public Interest Research Group issued a pamphlet during 1974 listing physicians in one of New York's boroughs and stating their fees, house call policy, hospital affiliation, and acceptance of Medicaid reimbursement. Physicians who refused to provide this information were listed as "uncooperative." (*39*) Similar publications exist for Hawaii; Springfield, Illinois; and Prince Georges County, Maryland. (*40*) A major news magazine ran a forceful story warning the reader against incompetent practitioners, lax State licensing boards, and unnecessary surgery, concluding with advice on how to choose a physician. (*41*)

Beginning in 1972 and extending throughout most of 1973, public attention was focused on a 40-year study of 431 poor black men from rural Tuskegee, Alabama, who were denied treatment for syphilis between 1932 and 1972 to enable researchers to learn more about the natural history of this disease. They were denied treatment even after a simple reliable cure for the disease, penicillin, was introduced in the midforties and in spite of an Alabama law enacted in 1927 which required treatment for all citizens suffering from syphilis. (*42–45*) The Tuskegee study generated much discussion, inside and outside the medical profession, on the ethics of human experimentation. Other studies came under public scrutiny, including a hepatitis study that used mentally retarded children as subjects (*46*), and the public learned that such studies while not the rule were far from being exceptions. (*47*) In the scientific literature, Curran (*48*) pointed out the need for an adequate system of regulation for long-term studies and Weinstein (*49*) questioned the ethics of randomized clinical trials. Bok (*50*) challenged the very basis of drug trials by raising doubts about the ethics of placebo use, and Ingelfinger mentioned the desirability of the nonphysician ethicist in medicine "in view of the ethicist's increasing influence with jurists and legislators dealing in medical matters." (*51*)

Questions of ethics led quite naturally to consideration of assurances of quality and competence. As early as 1965, the courts had established the principle that the administration of a hospital can be held responsible for the competence of the staff, and even the American Medical Association is increasingly critical of the apathetic performance of State boards of medical examiners in guarding the public. (*52*) In California, where the consumer movement is strongest, the State board is part of the State's Department of Consumer Affairs. Here, between 1969 and 1973, 387 physicians lost their

licenses, had them suspended, or were otherwise disciplined. In contrast, New York, with about 2,000 more physicians than California, took action against only 58 during the same period. (*53*) Only 15 States identify incompetence or malpractice as grounds for revocation of licensure, while 28 States make no mention of either. (*54*) Yet times are rapidly changing. Several State medical societies require evidence of continuing education for renewal of membership; New Mexico and Maryland require proof of continuing education for relicensure, and others are considering similiar legislation. (*55*) Pressure is growing for the inclusion of lay members on State boards, and no State is free of the growing influence of consumer activism.

In 1959, the National League for Nursing produced the first declaration of the rights of patients. (*56*) In the climate of the seventies, it is not surprising that such bills of rights are now common. The American Hospital Association brought out its version in 1972 (*57*) and many hospitals have adopted it, often in somewhat modified form. These rights, 12 in number, have been criticized as being paternalistic, unrealistic, and drawn up without sufficient consumer input. Nevertheless, five of these rights are of crucial importance to consumer and professional alike. These assure the patient's rights to:

- Obtain information on diagnosis, treatment, and prognosis in terms he or she can understand.
- Obtain information necessary to give informed consent prior to operations, procedures, or treatment.
- Refuse treatment.
- Be assured of privacy. (Patient consent must be obtained if he or she is to be the subject of any conference or teaching exercise.)
- Refuse to participate in human experimentation.

THE LEGISLATIVE INITIATIVE

In the present climate of consumer activism it seems certain that some form of national health insurance will be enacted within the next few years. Legislative initiatives related to national health insurance have already produced significant new laws in the past 3 years, and their combined impact promises to be as profound as Flexner's report of 1910. The legislative climate was set with the enactment of Medicare and Medicaid in 1965. These two amendments to the Social Security Act (Titles XIX and XVIII, respectively) now cover approximately 30 million people, and the Federal Government pays more than half of all their health care costs. Medicaid was to cost $258 million annually according to its proponents in the Johnson Administration. In 1974, however, Medicaid cost 10.5 billion dollars, half of which was paid by the Federal Government. (*58*) Faced with the cost problem noted, and under increasing pressure from the voters, Congress has now enacted legislation which goes far beyond Medicaid and Medicare to address the health delivery system per se.

The need for some kind of cost control mechanism that would not compromise the quality of care was apparent in the early seventies and the clamor for accountability was growing within medicine as well as outside it. (*59*) While a detailed discussion of the following legislative acts is beyond the scope of this paper, each is relevant to the consumer, to consumer health education, and to quality of care, and will be briefly presented from these perspectives.

In late 1972, legislation establishing professional standards review organizations (PSROs) was signed into law (PL 92–603, Title XI, Social Security Amendments of 1972). When they are all in place, PSROs will comprise a national network of about 1,000 physician-sponsored and -controlled organizations to review care provided in facilities receiving Federal reimbursement under Medicaid or Medicare. The idea of peer review has been likened to the FCC turning over regulation of television broadcasting to NBC, CBS, and ABC (*60*), but the experience of the San Joaquin Foundation for Medical Care, after which the PSRO idea is modeled, suggests that such an approach can indeed reduce the unnecessary hospitalization, unnecessary surgery, and redundant laboratory and radiologic examinations which have plagued Medicaid and Medicare. (*61*) In the San Joaquin situation, the costs of the peer review system are lower than monies saved through review of hospitalization and diagnostic procedures, and the changes in practice patterns this review process encourages. (*62*) It remains to be demonstrated, however, that the estimated $330 million the na-

tional PSRO system will cost will be exceeded by savings realized from reducing utilization of hospitals, especially since no one has any idea to what extent underutilization of hospitals is a problem in some parts of the country. (*63*)

PSROs may also initiate reviews of hospitalization covering pre-entry (prospective review), the hospital period itself (concurrent review), and the post-hospital period (retrospective review). (*64*) The review process must be based on the establishment by each PSRO of norms, criteria, standards, and screens.

From the standpoint of consumer information, the most significant portion of the PSRO law is the extent to which norms and criteria will be subject to public disclosure. Here, the law is ambiguous. Sections 1155.a.3, 1156.c.1, and 1166.a all deal with publication and distribution of data generated through PSROs, but what information the public will be entitled to, if any, is the subject of much debate. Consumer groups have been joined by the American Public Health Association in insisting on public access to all quality of care data. The AMA, in contrast, filed suit against the Federal Government to block implementation of the entire PSRO Act. (*65*) In all likelihood the real question is not what will be withheld but how secrecy will be maintained. With 1,000 PSROs and growing consumer demands, it is a virtual certainty that both norms and criteria will become public knowledge. They will surely come out in malpractice actions and public disclosure may be required under the Freedom of Information Act. While release of information about individual patients cannot be condoned, public disclosure of norms and criteria will have far-reaching effects. Physicians complain that PSRO leads to "cookbook medicine," but the doctor's cookbook is the consumer's encyclopedia. Consider Table 3–3, which lists patient care criteria for acute myocardial infarction. It is a preliminary guideline developed by the American Society for Internal Medicine and published in the *AMA News*. (*66*) Regardless of the specifics of the criteria and variations from region to region, this information provides the public with a standard against which medicine can be judged, a standard promulgated by the doctors themselves.

Consumer groups will compare criteria from different regions and it would not be surprising to see a clamor for adoption of a single set of criteria nationwide. The existence of public criteria will open the entire PSRO mechanism to extraordinary scrutiny and probably represents the source of potential dissatisfaction that could deprive physicians of mastery of their own destinies. In the end, it will be the collective patient that dictates terms.

TABLE 3–3. An Example of Patient Care Criteria

CORONARY HEART DISEASE WITH ACUTE MYOCARDIAL INFARCTION

I. Indication for Admission
   - A. Suspected or proven acute myocardial infarction
   - B. Sustained anginal type pain
   - C. Increasing frequency and severity of anginal attacks
   - D. Angina with development of new cardiac rhythm
   - E. Congestive heart failure in the presence of angina

II. Length of Stay
   - A. Range of 12-32 days
   - B. Average 18.1 days

III. Essential Services Consistent with Diagnosis
   - A. History
     1. Typical chest pain with typical patterns of radiation
     2. Change in anginal patterns
     3. Development of symptoms of congestive heart failure
   - B. Past History
     1. History of angina pectoris
     2. History of previous myocardial infarction
     3. Family history of coronary heart disease
     4. History of diastolic hypertension
     5. History of diabetes mellitus
   - C. Physical Exam
     1. Hypotension or shock
     2. Significant change in heart rate
     3. Pallor
     4. Diaphoresis
     5. Evidence of congestive heart failure
   - D. Laboratory Tests
     1. Usual Tests . . .

In 1932, the Committee on the Costs of Medical Care recommended the creation of voluntary, hospital-based, prepaid group practice plans (*67*); the health maintenance organization (HMO) concept was thus stated for the first time. The growth of prepaid group practice in the United States has been relatively slow. Only about 5 million Americans are enrolled in HMOs; more than half of these are subscribers to the various Kaiser plans in Oakland, Los Angeles, Portland, Honolulu, Cleveland, and Denver. What they lacked in members, however, the

group practice people compensated for by contributions to the medical care literature. The basic idea is that prepayment creates incentives to control costs, thus eliminating unnecessary services while providing high-quality care equal to and perhaps better than that provided under a fee-for-service arrangement. A vast literature has accumulated, almost always taken from the plans themselves or their sympathizers, testifying to the ability of prepaid plans to provide quality at an affordable cost. (*68–73*) Congress was sufficiently impressed to pass the HMO Act of 1973 (PL 93–222).

Medicaid and Medicare provided funds to cover the cost of care; PSRO provides a mechanism through which costs and quality are to be reviewed; and the HMO Act goes one giant step forward in attempting to alter the organization of medical practice. There are two HMO models recognized by the Federal legislation: the Kaiser model and the San Joaquin Foundation model. The latter was established in 1954 in response to Kaiser plans to establish a prepaid group practice in the San Joaquin Valley. The San Joaquin Foundation also provided the model around which the PSRO Act was developed. It is sponsored by the county medical society and combines consumer prepayment with fee-for-service practice. The medical society collects the premiums and reimburses the participating physician on a fee-for-service basis from a premium pool. Once the pool is exhausted, the fees stop and the HMO must cover its own deficits. The incentive is obvious. Under the Kaiser model, physicians are salaried and most, if not all, care is provided in a single facility. The framers of the HMO legislation left out very little. All HMOs must provide such benefits as physician services, in- and outpatient hospital services, necessary emergency care, diagnostic laboratory and radiologic services, therapeutic radiologic services, and a range of preventive services including family planning and infertility assistance. Beyond this basic benefit package, each HMO must operate on a prepayment basis using a community rating system and offer for at least 30 days each year a period of open enrollment. HMOs that meet these requirements are eligible for Federal certification. Such certification frees the HMO from any and all restrictive State laws governing the establishment or operation of group practice plans including those which prohibit advertising of costs and services. Most important, certified HMOs must be offered as an alternative health care package to employee groups in any business employing more than 25 persons. In effect, this provision requires that employers advertise the existence and benefits offered by any and all local HMOs. This "mandatory dual choice" provision is an incentive to the HMO to seek Federal certification.

According to Dorsey (*74*), the original HMO legislation went too far and not far enough all at the same time. He felt that the requirements were so stringent that they would have the effect of discouraging the development of HMOs because they were required to provide services not provided by private competing insurance carriers. Because of the disparity of services, the monthly HMO premium is often in excess of the rate charged by competitors offering fewer services, and there is much experience to demonstrate that the premium charges of prepaid group practice must be competitive with existing coverage to attract members. This problem was also noted by consumer periodicals and in the professional literature (*75*) and, in 1976, led to a reduction in required benefits. MacLeod and Prussin expressed concern over the potential manpower demand implied by the growth of HMOs. Their conclusion was that a projected increase of HMO enrollees to 40 million people by 1980 would require almost 40,000 physicians, or 50 percent of the medical school output during the next 4 years. (*76*) An additional problem is that the wider range of benefits will tend to attract high-risk persons for whom the higher premiums are a bargain. Although it has been modified to protect the competitive position of the HMOs, the 30-day open enrollment period and the community rating requirement mean that existing third party providers can offer lower-risk groups lower premiums based on experience rating, and leave the HMO with an overabundance of high-risk persons who can always buy into the plan because of the required open enrollment period. In short, the very provisions of the HMO Act which would do most to reform the delivery system and benefit the consumer have the effect of impeding the growth of HMOs as long as the competition is not bound by similar requirements. In this context, the HMO Act is a case of consumerism working against the consumer. It actually rewards the provider of fewer benefits whose lower premiums serve to re-

strict the real advantages inherent in the HMO concept.

In January 1975, President Ford signed into law the National Health Planning and Development Act (PL 93–641) which combines the functions of the Comprehensive Health Planning, Regional Medical, and Hill-Burton programs in a single planning agency. A system of local planning agencies now oversees the flow of Federal health monies into each planning area and is responsible for the development of long-range plans to meet needs identified through the planning process. It is still difficult, even after 2 years of health systems agencies (HSAs), to know what kind of impact this legislation will have, but it was clearly written to prevent unnecessary hospital construction and to encourage consumer participation in the planning process. Consumers, government officials, and professional planners are to be a majority on State and local planning boards, with providers forming a distinct minority. If the legislation proves effective, control of construction of health facilities will pass out of the hands of health providers and into the hands of a consumer-government partnership. The chances are good, however, that like the Comprehensive Health Planning program which preceded it, these HSAs will sooner or later become the captives of medical and hospital interests. (*77*) From the consumer viewpoint, the HSA approach represents an attempt to prevent future waste but does nothing to correct existing failures. It is consumer involvement without content.

It seems apparent that some kind of national health insurance is coming but when and in what form is unclear. Dozens of bills have been introduced in Congress in recent years. The AMA proposes to rely on voluntary health insurance with Government subsidizing premium costs for the poor. The more affluent would receive a tax credit under the AMA plan and a tax deduction under a variant offered by the Health Insurance Association of America. The Nixon-Ford Administration favored voluntary insurance with States paying premiums for the Medicaid eligible, employers paying for employees, and Social Security picking up the tab for the Medicare population.

Catastrophic insurance is advocated by Senators Long and Ribicoff. Under this plan, illness requiring more than 50 hospital days or $2,000 in medical bills would be covered by Social Security.

Senator Edward Kennedy has been connected with a number of proposals. The Kennedy-Mills plan would have extended Medicare downward to persons below the age of 65, while the more expensive Kennedy-Griffiths plan would have provided "womb-to-tomb" coverage under a single involuntary insurance program financed from general tax revenues and covering the entire population. By January 1977, Kennedy was promoting a third bill, somewhat similar to Kennedy-Griffiths, known as the Kennedy-Colman bill. Supported by organized labor, this bill combines extensive benefits with a financing scheme that ties dollars available for health care directly to the state of the economy as a whole. All of the proposals are probably more expensive than the $133 billion spent on health under the existing system in 1974. The Long-Ribicoff catastrophic proposal would cost least; the Kennedy-Colman bill would perhaps cost the most. All would reduce out-of-pocket costs, and all but the two Kennedy bills rely heavily on private insurance participation. Whatever emerges as the final bill will no doubt contain various features of its predecessors, and, like its predecessors, no doubt will be inflationary and stimulate congressional efforts to further control costs. Depending on coinsurance provisions, Newhouse and his colleagues (*78*) estimate that national health insurance will increase demand for ambulatory care from 30 to 75 percent. Such an increase in demand will drive manpower costs up dramatically, especially for physicians, who, some feel, are already in short supply. It is fruitless to speculate further on national health insurance. It will provide more and better coverage for more people; it will be compatible with HMO, PSRO, and HSA legislation; and it should be of value in rendering moot some of the restrictions that presently impede the development of prepaid group practice.

Federal legislation has been passed to encourage the education of more physicians and allied health personnel. The Health Manpower Act of 1968 required expansion of medical school enrollment. Its 1971 successor provided capitation grants to those schools meeting certain Federal criteria related to national physician manpower needs. This act (HR 2956) was to be renewed in 1974 but was delayed until 1976. Among other things, this bill downplays direct enrollment increases in medical schools, while facilitating the transfer to American medical schools

of Americans enrolled in foreign medical institutions. The medical schools have protested this on grounds that it strips them of control of their own admissions, but their dependence on Federal support makes it difficult for them to do anything about this violation of their autonomy.

Legislation concerning health is rarely initiated by the medical profession. Similarly, the pressures for expanded medical school enrollment, reentry of Americans attending foreign medical schools, limitations on licensure, restriction of the entry of foreign medical graduates, HMOs, PSROs, HSAs, and national health insurance all arose outside of organized medicine. To a great extent, neither the profession nor its institutions have effective control over consumer-backed legislation. Increasingly the posture of medicine is reactive. Medicine negotiates, modifies, and accommodates; it no longer initiates.

Quality Assessment: Toward a Physician–Consumer Alliance

Although the instrument was known previously, it was William Chamberlain (1540–1596) who first used the forceps extensively in obstetrics. The device was employed with great secrecy and passed from father to son to grandson. (*79*) William Chamberlain's great grandson, Hugh (1630–*c.* 1703), was hauled before the Royal Society of Medicine, where it was demanded that he display the forceps for the inspection of his colleagues. So great was Hugh Chamberlain's desire to maintain his competitive advantage that he produced but one blade of this two-bladed instrument. Although such intraprofessional secrecy is frowned upon today (and probably would be impossible in any case), the story of the Chamberlains illustrates the point that the very existence of the professional provider depends on the differential in knowledge which separates him from the consumer. The consumer who achieves knowledge parity with the physician stands in a new relationship with him.

It has been a principal argument of this monograph that the narrowing of the knowledge gap between physician and consumer is a result of consumerism arising from mass media, on the one hand, and the trend to ever narrower medical specialties, on the other. Recent congressional action has confirmed the reduction of this gap by encouraging one type of practice at the expense of another in the HMO law and by requiring, through PSROs, the development of norms and criteria of care which are destined for public disclosure. In passing such legislation, Congress and its consumer constituents are saying that health is too important to be left to physicians alone and that the wisdom necessary to make beneficial changes exists largely outside the profession.

It seems apparent that the availability of criteria such as those presented in Table 3–3 will lead quite naturally to the ultimate consumer question: What do the criteria have to do with the fate of the patient? When consumers ask what they can expect from medical care, they are asking about what is commonly referred to as "quality assessment" or "quality of care." Quality is what investigators promise consumers more of when they ask for public money to support their research. It is also what HMO advocates claim can best be attained through prepaid group practice, while fee-for-service practitioners warn that it will be lost if they are paid in any other way.

Quality assessment is a central issue in medical care, and an understanding of its components is essential for consumerism. Without involving ourselves in debate over a definition of quality, we will instead begin our discussion with Donabedian (*80*), who identifies three basic variables in quality assessment: structure, process, and outcome.

Structure refers to the facilities, organization, financing, and manpower components that make up the health care system. It is assumed that care is better when certain arbitrary standards, such as licensure of physicians and accreditation of hospitals and medical schools, are reached. Structure is thus directed to the attainment of an arbitrary standard of resource availability—so many board certified physicians, so many acute care beds, requirements for a specified number of continuing medical education hours, and so forth. The great attraction of structural considerations is that data are readily available. Disadvantages are many. For one thing, availability of resources does not mean that they are accessible. For another, their existence in no way implies that the patient is likely to benefit from them. Finally, belief in the assumed value of structural components can lead to the conclusion that all that

is needed to achieve some desirable outcome is more research, more doctors, more technology, more training, or more rules. The recent emphasis on required continuing medical education of physicians is based largely on structural assumptions, as is the perceived need for more physicians and a different specialist mix.

There are two uses of structural considerations. Structure assures that the necessary components of the health care system exist and by so doing provides a very crude measure of quality. In other words, in either/or situations, structure has obvious value. Without automobiles there would be no auto accidents; with no doctors there would be no patients, no process, and no outcome. Thus, it is safe to say that the quality of health care in the United States is superior to that in Zaïre. The utility of structural considerations breaks down when one tries to identify how much or how many of something lead to a defined outcome; studies relating structure to outcome have shown, at best, a weak correlation. (*81–86*)

In discussing the medical care process, it is necessary to keep in mind that health status depends on genetic makeup, environment, and behavior, as well as on the medical care process. The medical care process is defined by Donabedian as "the evaluation of physicians and other health professionals in the management of patients." (*87*) It deals with diagnosis, therapy, and all of the things that doctors do to or for their patients. Process itself can be harmful, as indicated by the fact that 18 to 30 percent of all patients suffer a drug reaction while in the hospital. (*88, 89*)

Process assessment was first proposed in 1933 by Lee and Jones (*90*), who sought to define those components of process which made for good medical care. More recently, interest in process has been directed at cost containment. New Jersey Blue Cross and the Commission on Professional and Hospital Activities have both developed process evaluation methods designed to allow individual hospitals to compare their handling of certain diseases with the techniques used in other institutions. Lewis (*91*) has pointed out the tendency for such methods to equate quality with quantity, and Brook (*92*) makes the point that any method which deals primarily with medical records, such as process evaluation, may conclude erroneously that the quality of the record is tantamount to the quality of the process.

When a patient consults a physician, there are four possible results.

1. The sick patient can be diagnosed as sick by the physician (true positive).
2. The sick patient can be diagnosed as well (false negative).
3. The well patient can be correctly diagnosed as well (true negative).
4. The well patient can be misdiagnosed as sick (false positive).

False negative and false positive diagnostic errors are harmful to the patient: false negatives because they miss something which might be treatable; false positives because they may frighten the patient for no good reason, lead to unnecessary restriction of activity or unnecessary surgery, or—depending on the condition—place a social stigma upon the patient. The professional view that false negatives are worse than false positives is consistent with the history of the medical profession, which until quite recently offered little except diagnostic accuracy. Historically, diagnosis has tended to become an end in itself, quite separate from therapeutics. This bias toward the false positive has long been apparent and constitutes a major problem in assessing quality based on process. (*93, 94*) This tendency is augmented by the limitations of most diagnostic tests. For example, if the disease suspected affects 2 percent of the population from which the patient is drawn, even an extremely sensitive test is likely to produce false positive results. (*95*)

The propensity of the physician to diagnose and treat is often reinforced by the patient's desire to assume a sick role. Placebo effect alone relieves symptoms in about 35 percent of cases (*96*) and favorable feedback from patient to physician encourages further use of drugs which may be ineffective in the treatment of a disease the patient does not have. Patient feedback too often substitutes for a predefined therapeutic end point. In the absence of such an end point, therapeutic effect becomes subjective and the doctor's belief in his therapy reduces the likelihood that he will suspect drug toxicity. (*97*)

False positives confound the medical care process by leading to what Dykes (*98*) calls "uncritical thinking," that is, the substitution of clinical opinion for knowledge. A disease such as hypertension, which depends on defining normal limits, is characterized by legions of mislabeled patients, both

positive and negative, and even though it is one of the most important and most prevalent diseases, there is still no adequate process for many of these patients. (*99*) It may be that false positivity accounts in part for the tendency of physicians to be overly sanguine in prognostic judgments. (*100*) In addition, there are no process criteria for the common minor illnesses which account for the vast majority of physician visits. (*101*) The upper respiratory infections, upset stomachs, headaches, trivial skin problems, and such vaguer entities as fatigue and weakness lie beyond quality assessment, largely because they are handled by the practitioner without recourse to hospitals, and the record keeping of the practitioner by and large does not offer a data base sufficient for evaluation.

In spite of the limitations, the PSRO concept bases quality assessment on process. The use of empirical standards derived from usual practice in a community is one way to assess process. The other is the establishment of normative standards based on explicit criteria developed by panels of experts. Neither is free of problems particular to itself and both suffer from the false positive bias discussed above. Also, while the more implicit, less rigorous empirical approach is more easily attained, it may fail to reflect full exploitation of existing knowledge and there may be very great regional differences. The explicit criteria approach also has some obvious drawbacks. Detailed criteria, which may be unrealistic in some geographic areas, also tend to be costly in that the procedures specified often require expensive equipment. There is also the risk that these procedures will multiply without any proportionate positive effect on the patient. In both methods, errors constitute between and among observers a factor of some importance in determining reliability and validity.

Since the purpose of medical care is to maintain or improve health, the logic in favor of outcome measures is overwhelming. Outcome (that is, what happens to the patient as a result of medical care) is of central interest to the consumer and it is the anticipation of outcome benefits which usually leads the individual to the health care system in the first place. (*102, 103*) The great advantage of using outcome as a basis for assessment is the fact that it takes into account a variety of factors, including structure and process. Unlike structure and process, outcome is patient-oriented, and is strongly influenced by patient behavior, genetic makeup, and the sociophysical environment: Genetics is largely beyond manipulative control, and the environment issue is more a social policy matter than a medical one.

Unfortunately, the use of outcome measures in quality assessment is as problematical as the use of structure or process. To begin with, the false positive bias inherent in antecedent process tends to inflate favorable results by the adding of people who were not sick in the first place. Second, it is difficult to identify appropriate measures of outcome. White (*104*) has proposed the so-called 5 D's as units of outcome: death, disease, disability, discomfort, and dissatisfaction. Fanshel and Bush (*105*) prefer prognosis and function, while Burdette et al. (*106*) opt for disease status, symptomatic status, and functional status. With the exception of dissatisfaction, Burdette's measures are similar to White's but dissatisfaction is a most important omission in view of its importance in patient behavior. (*107, 108*)

The most serious problem with whichever set of measures one adopts relates to their temporal relation to process. In other words, when—in time—should outcomes be related to process? Thirty years may be appropriate but impractical and 1 year is often practical but usually inappropriate. When process includes therapy extending over many years, outcomes are confounded by patient behavior. At best, compliance rarely exceeds 70 percent; among low-income groups it usually fails to reach 40 percent. (*109, 110*) In long-term therapies, compliance as low as 20 to 35 percent seems to be common. (*111, 112*) If therapy is effective, noncompliance can be expected to have a negative effect on outcome. On the other hand, ineffective or harmful therapies will appear more effective (and even beneficial) when noncompliance is high. This is a neglected area of research, although it is known that patients tend to overestimate their compliance. (*113*) The results of a recent study of oral hypoglycemic agents suggest that the noncompliant patient is not necessarily the one with the worst outcome. Compliance is further influenced by structural changes such as movement of a facility, increased waiting time, and the departure of a favorite physician. (*114*)

Brook (*115*) has pointed out other problems with outcome measures. One is the lack of knowledge of

the natural history of most diseases, especially with regard to symptoms and disability. Obviously one needs to know what outcome would occur without process to determine the influence of process. Another is the difficulty of obtaining outcome data. They are not entered in the patient's record and can usually be obtained only through interview. Functional status and symptomatic status may be difficult to interpret as patient perceptions of these are related to sociocultural factors. Finally, there is an important variant of the time problem. Outcome evaluation must be based on short-run intermediate outcomes such as lower blood pressure or reduced blood sugar. Again, the diabetic drug study illustrates the danger of equating short-run success with long-term benefits. Starfield (*116*) adds the important observation that outcome measures depend in the end on following patients over time. Most of the problems relate in some way to this difficulty in followup.

The concept of outcome-based assessment goes back to Florence Nightingale, who utilized comparative death rates to demonstrate the need for better health services in the British Army. (*117*) Sixty years ago, Codman (*118*) suggested that hospitals conduct a yearly end result assessment of their labors which would help them determine what was effective and what was not. More recently, advocates of prepaid group practice began conducting studies relating outcomes to structure to promote the advantages of their delivery mechanism. (*119–121*) Similar studies relating structure to outcomes have been carried out comparing teaching and nonteaching hospitals. (*122, 123*) These studies relied heavily on death as an outcome measure.

Appendectomy has been a favorite condition of researchers investigating surgical outcomes. These results tend to confirm the prevalence of bias in favor of false positives. (*124, 125*) The Professional Activity Study (*126*) report on appendectomy is representative. It reported that pathological confirmation of appendicitis ranged from 100 percent all the way down to 10 percent among individual surgeons and from 30 to 90 percent in different hospitals.

These early structure-outcome studies were all relatively straightforward since the vastly complicated process variable was not considered. In a variation of this approach, Williamson would have expert physicians establish hypothetical outcome standards against which actual outcomes would be measured. Process would be investigated when actual outcome compares unfavorably with the outcome standards. (*127*) Repetition of this cycle would permit poor process to be corrected and prognostic judgment sharpened. Williamson's approach focuses on all determinants of outcome simply by virtue of its demands for predetermined outcome standards. Because this approach looks beyond the physician and his technology, it identifies patient educational needs and must take into account sociocultural elements as well. It is an attractive approach because it is relatively simple. However, it suffers from all of the problems already mentioned, especially prognostic inaccuracy.

Kessner (*128*) advocates the use of "tracers." A tracer is a condition (for example, hypertension, visual disorder, or cervical cancer) which can affect function, is easily diagnosed and prevalent, and whose natural history can be influenced by a well-defined medical care process. In addition, the effects of socioeconomic and behavioral factors on each tracer should be understood. This is a tall order, even for mundane conditions. Nevertheless, tracers do permit one to identify the strengths and weaknesses of a particular physician, hospital, or even an entire system of health care. They also account for the interaction of physician, patient, and both the social and physical environments. However, while the structural, process, and outcome factors examined by this approach may be regarded as representative of the way all illness is handled, it may well be that tracers are not representative of anything other than themselves. There is no particular basis for the assumption that the level of physician skill, structural supports, and favorable outcome apply in toto or in part to nontracers. The search for truly representative tracers may be long and frustrating, although six tracers have been used to the satisfaction of Kessner and his colleagues.

Brook favors a more complex approach which relates outcome to both of the essential dimensions of process, diagnosis and therapy. In a most impressive study, Brook (*129*) used five methods to examine each of three medical conditions: hypertension; gastric or duodenal ulcer; and urinary tract infection. For each disease, he studied process, outcome, and process and outcome combined. Each of

these was analyzed using both implicit (empirical) and explicit (normative) criteria. According to the method used, care was judged adequate for between 1.4 percent and 63.2 percent of patients. Explicit criteria accounted for the lowest rate of adequacy. Implicit criteria proved less severe, but there was a wide gap between the adequacy of process (23.3 percent) and that of outcome (63.2 percent) using implicit criteria. Interestingly, process was often adequate but outcome was adversely affected by deficient followup.

Brook's work points out very clearly the dependence of quality assessment on the method used. The implicit approach process correlated poorly with outcome in his experience and there was much variation depending on the condition. This suggests that similar variation may be expected to affect the tracer approach. Implicit or explicit, outcomes left much to be desired. This finding is supported by Brook's earlier work on emergency room care. (*130*) Here, care was judged satisfactory only in about 31 percent of cases, and the big problem again was poor followup, often as a result of patient misunderstanding of provider expectations. Starfield (*131*) studied 53 pediatric patients with low hemoglobin values and found that half of them still had similar hemoglobins 6 months later. Surprisingly, in 24 percent of the 53 children this simple diagnosis was overlooked altogether. Among those treated, followup again left much room for improvement. These studies suggest that followup is the greatest weakness in the medical care process, and it is worth a brief pause to observe that followup is a doctor-patient collaboration involving effort on both sides.

Figure 3–1 presented a graph which related dollars spent on health to health status in contemporary America. Figure 3–2 repeats the original curve of Figure 3–1 (line BC) and adds a second curve (line B'C'). It may make economists wince, but it attempts to demonstrate graphically that we are trying through new legislation, new consumer initiatives, and new interest in quality assessment to find our way from BC to B'C': in other words, to obtain more health for the same or fewer dollars spent. Moving from the lower to the higher curve can be achieved in a number of ways:*

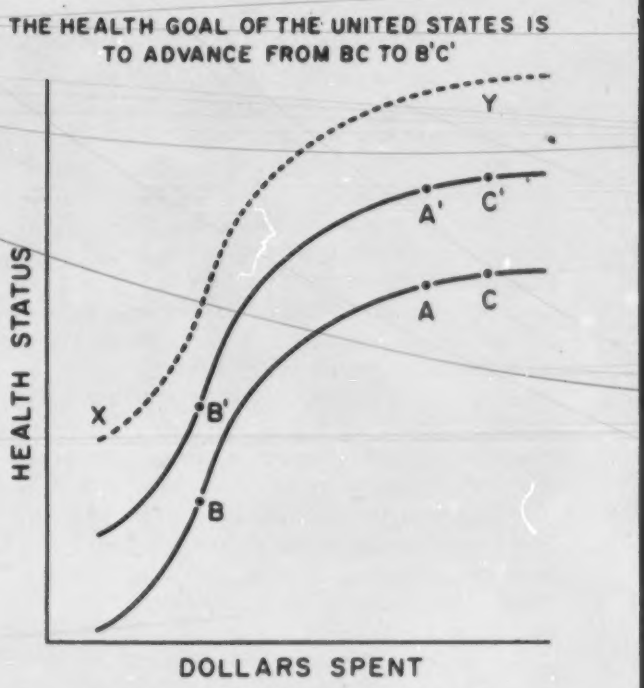


FIGURE 3–2.

- Improving the provider system (that is, the efficacy of diagnostic and therapeutic processes now in use might be improved through modification to reduce followup failure, to reduce the use of ineffective therapies, and to reduce the rate of false negative and false positive diagnoses).
- Incorporating the consumer-patient into the medical care process in such a way that human behavior complements rather than contradicts process.
- Reducing the incidence and prevalence of major chronic diseases by modifying consumer lifestyles and eliminating known disease risks.

Research discoveries that improve the efficacy of the medical care process would also affect the re-

*Two of these, genetic and environmental manipulation, will not be discussed here.

lationship between health expenditures and health status. The potential effect of technological change appears as line XY in Figure 3–2.

Until very recently, efforts to improve health status focused almost exclusively on the scientific breakthrough (curve XY), and the research effort this implies has burgeoned in the three decades since World War II. Improvement in process dates back to the PSRO legislation of 1972 and the HMO Act of 1973 and neither is as concerned with improvement as with cost containment. (*132*) If this were not the case, logic would focus the attention of PSRO on outcomes rather than process. Enhanced consumer involvement, which involves consumer health education, has never been tried on a large, coordinated scale. While the idea of health education goes back at least to the establishment of the American Medical Association in 1847 and professional health educators have been trained since 1921, only about one-half of 1 percent of the $116 billion spent per year in health finds its way into either prevention or health education. (*133*) In addition, State and territorial health departments allocate less than one-half of 1 percent of their budgets to health education. (*134*)

Improvement of the medical care process, as we have seen, requires that process be related to outcome. This is difficult to achieve because of the need to follow patients over long periods of time. This problem can be partly overcome by the use of person-years and life table techniques, but perhaps the best approach is one that establishes a defined population. Prepaid group practices have this advantage, but a regional approach to health services delivery might accomplish much the same thing, particularly in areas with few health care facilities. The financial stakes are sufficiently high now to make a regional approach attractive and regions are at the heart of the PSRO concept. Such regions permit one to study a given population and to compute various rates based on this population denominator. Obviously, no region will be airtight since people undoubtedly will cross regional boundaries to seek care elsewhere. In spite of such crossovers, however, regional data are clearly preferable to what is presently available. As norms of care evolve under PSRO, the regional approach will greatly facilitate the identification of outcomes derived in part on process within the region.

One approach that seems particularly appropriate is Blum's suggestion for combining Williamson's approach, which he calls "prospective outcome analysis," with what he refers to as "past-focused analysis." An expert medical committee for a given specialty area selects the most important diseases on the basis of such factors as prevalence, effect on function or life expectancy, ability of process to control the disease, the costs involved in care, ease of diagnosis, and the likelihood that present care for the disease is less than optimal. The committee then establishes outcome standards and samples actual outcomes. When outcomes differ significantly from standards, a case-by-case review is initiated. An effort is made to identify elements principally responsible for the poor outcome: the doctor, the patient, the facility, the health care delivery system, lack of knowledge, or some unusual element. The idea is to pinpoint the lesion in the elements of process so that subsequent failures can be prevented.

Past-focused analysis concentrates on the status of the patient when he or she first comes under care to identify the determinants of patient status when the medical care process begins. Then an expert committee again identifies the most important conditions and samples a number of cases to identify failure of one or more of the process elements enumerated above. Having identified the source or sources of outcome failure, the committee next attempts to eliminate the problem.

While this prospective-retrospective approach is subject to most of the problems encountered in quality assessment, its strength lies in its ability to identify and perhaps correct problems in areas often regarded as peripheral to the medical care process. Strenuous efforts to reduce costs through PSRO, HMO, and, no doubt, other means yet to be devised might greatly reduce the inputs of the medical care process. Instead of too much surgery we might find ourselves with too little; overutilization of hospitals might be replaced by underutilization. Needless to say, we seek instead a golden mean without being able to separate precisely the excessive from the insufficient. The prospective outcome analysis Blum suggests would begin to relate outcome and process in a manner which would get increasingly precise over time. The boundaries between too much and too little would become increasingly clear, as would the role of particular kinds of patients in producing

particular outcomes for specific diseases. Meanwhile, past-focused analysis points out not only the success and failures of past encounters with the structure and process of medical care but also helps clarify the influence of the patient in determining his own outcome.

With the exception of surgical patients and those who are anesthetized, comatose, or otherwise acutely ill, the physician's effect on outcome is dependent on the ability of the physician to influence patient behavior. (*136*) This complicates the study of process because physician researchers tend to separate the hard data from laboratory tests, electrocardiograms, and drug trials from the soft data of behavioral studies (for example, patient compliance). Most physician researchers are uncomfortable with soft data, which they regard as the province of the social scientists. We have already seen that compliance becomes a particular problem when the therapy is complex or must be continued indefinitely or over extended periods of time. Even the best of drugs is ineffective if not used or if used improperly. Unfortunately, the response of physicians to the compliance problems is unsatisfactory. (*137*) Having diagnosed and prescribed, the physician often feels that compliance is someone else's responsibility. But whose if not his? Davis found that 67 percent of senior physicians regarded noncompliance as resulting from an "uncooperative personality." Only 26 percent felt that the doctor was responsible, or, presumably, that compliance was a physician responsibility. (*138*) The great advantage of Blum's combined prospective-retrospective approach to quality assessment is that the determination of outcome is focused on the patient.

With norms of care and defined populations, either through HMOs or regionalization, Blum's method seems well suited to pinpoint and correct other important failings of the medical care process, for example, followup inadequacies and the false negatives and false positives arising from inaccurate diagnoses. Indeed, the past-focused approach provides an opportunity to identify those false negatives of previous process encounters and to get some idea of how these people will do with the wrong therapy or with no therapy.

In spite of physician hostility to the notion of quality assessment (*139*) and negativism about PSRO, the pressure of consumerism will make it extraordinarily difficult to dilute the impact of this legislation. Public knowledge of norms and criteria alone will generate new consumer interest and result in new pressures on medicine. Eventual insistence on outcome measures seems inevitable. What we have to recognize is that the physician-consumer complex is the core of the medical care process, and together they constitute the unit of production of outcome. What is missing in the present situation is the crucial idea that the consumer usually has more control over his health than the physician. The dissemination of this notion and the related idea that one's health is primarily one's own responsibility will emerge more clearly once outcome measures have been adopted.

The more the consumer knows, the more likely he is to cooperate with the physician, not only in a compliance sense but also in terms of increasing the efficiency of the medical care system. The publication of outcome studies and their coverage in the mass media will do much to dispel unduly optimistic or pessimistic expectations of the medical care process. In addition, norms and criteria of care that differ from region to region will gradually be altered to resemble the norms that correlate best with outcomes. If the prospective-retrospective method is used, there will be no question of the importance of patient behavior as an outcome determinant. Public awareness of results of this kind is so important that new norms that are expected to result in better outcomes should be reviewed in terms of the ability of the media to disseminate to the consumer the information he needs to benefit fully from improvements. News media should be given information relating to susceptibility and seriousness of various illnesses, as well as what medicine has to offer.* Since patient behavior is largely a trade-off between perceived benefits and perceived barriers, this kind of information is important to compliance. (*140*)

Unlike the automobile, medical care is produced in immediate proximity to the consumer, so much so that the process becomes a part of his experience. The consumer is not only part of the unit of production, he is in fact the product of a "consumer-inten-

*Diseases largely beyond medical control would be approached from a preventive standpoint or ignored. Ability to control the disease is one of the factors to be considered in identifying important diseases.

sive" process. (*141*) Once the consumer is so regarded and so regards himself, some of the hostility to clinical trials may disappear, at least in cases where the standard therapy leaves much to be desired. For example, the prognosis in operable carcinoma of the lung is very bad and for inoperable cases even worse. (*142*) Cochrane perhaps says it best:

> *Such trials would necessarily involve denying the routine procedure to half a group of patients and at this stage are nearly always termed unethical. It can be argued that it is ethically questionable to use on patients a procedure where value is unknown, but the answer is that it is unethical not to do so if the patient will otherwise die or suffer severe disability and there is no alternative therapy. (143)*

As the limitations of modern medicine become more apparent with the use of outcome measures, the consumer's stake in better outcomes will make him more tolerant of the clinical trials necessary to optimize therapeutic results. After all, ineffective science is nothing more than ritual mysticism masked by technical jargon. Indeed, it is the high cost of ineffective therapies that aroused consumer interest in the first place. Other costly but perhaps ineffective therapies should also be subjected to clinical trials. Psychotherapy and psychoanalysis would seem to be prime candidates, in part because of cost and in part because the psychiatric literature is already largely popularized and nonpsychiatric professionals and indeed nonprofessionals as well feel increasingly competent to administer its techniques. (*144*)

Emphasis on outcome implies changes in structure as well as process. A specific desirable outcome or group of outcomes is a consumer-oriented objective in that attention must be directed to the clientele to be served. An outcome is a central objective around which various existing disciplines can be organized. Clinical medicine, epidemiology, administration, biomedical research, medical care research, behavioral science, and health education can all relate to a common problem requiring a multidisciplinary solution. Over time, this kind of close collaboration might lead to more or less permanent multidisciplinary task force structures which would seriously challenge the existing departmental organization of hospitals, medical schools, and other health institutions.

Will the informed consumer transform himself into an educated patient? Given outcome emphasis and the central nature of the patient role, the physician has an interest in educating his patients, and the patient can see clearly how compliance is in his best interests. Sehnert (*145*) stresses the concept of the "activated patient," by which he means people who are specifically trained to meet the simple health hazards of everyday life, including use of such basic instruments as the stethoscope, otoscope, and sphygnomanometer. He reports that such patients are high compliers. Etzwiler has developed a written contract between doctor and patient in the treatment of diabetes. Each knows what to expect of the other and Etzwiler (*146*) reports a compliance rate of 62.5 percent using this method. Both of these devices involve patient self-selection, but in spite of this bias each represents an innovative approach to involving the patient in his own care. Healy (*147*) reported that preoperative patient instruction resulted in earlier discharge when compared to those not so instructed. Patient education is also reported effective in reducing postoperative narcotic use, in decreasing emergency room utilization, and in reducing total hospital admissions. (*148–150*) Results of this kind have aroused the interest of third party payers such as Blue Cross who view patient education as a potential cost-cutting technique. (*151*)

Interestingly, it is at least conceivable that the alliance of physician and consumer around outcomes will redound to the disadvantage of the insurance carriers. Outcomes represent an effective defense against cost-cutting third parties because process is derived from outcome and is less subject to arbitrary regulations intended to discourage utilization. PSROs may be a case in point. PSRO is a manifestation of consumerism. The same politicians who voted for this legislation will have difficulty resisting demands from consumer and physician for more services as long as these are firmly based on outcomes. PSRO is thus a potential point of collision between the cost-effective approach and political reality. Prepaid group practice will also have to prove itself. The old outcome-structure approach is obsolete. Only outcome measures related to process and patient behavior will enable one to judge whether the lower costs of such prepaid group practice represent an acceptable level of quality. The alliance between physician and consumer will be greatly facilitated by national health insurance which will go far to remove cost as a matter of contention.

The fundamental difficulty which has plagued consumer health education since its inception is that it has always lacked a specific tie-in to process, the mainstream of medicine. Outcome measures bring such education into process and provide a field for productive research: the further elucidation and quantification of the effect of education on process and thus on outcome. Consumer health education has no meaning and no direction in the absence of quality assessment based on outcome measures. Quality assessment is the very basis of health education. The content of health education is, therefore, behavior known to be beneficial through outcome measures. The context of health education is that health services structure which best integrates consumer health education into the medical care process.

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4

A STRATEGY FOR HEALTH EDUCATION

"Education is civil defense against media fallout."

—Marshall McLuhan, *Understanding Media*

An underlying premise of this monograph is that in the future, individuals will have to accept greater responsibility for the maintenance of their own health. To that end, we have stressed the positive potential of television in the development of consumer constituencies for health and in consumer health education (see Chapter 2) and the importance of the development of a base for consumer-provider collaboration (see Chapter 3). Specific recommendations for the achievement of enhanced individual consciousness and responsibility for health include:

1. Development of a system of product endorsement to maximize the potential of television advertising as a source of positive consumer health information.
2. Inclusion of therapeutic outcomes in the standards used to judge medical care quality as a means of including the patient-consumer directly in the evaluation and assessment of care.

This final chapter draws upon the previous discussion to specify a strategy for consumer health education based on the current and projected lifestyle and health status of the American people.

Until very recently, health education efforts were directed toward the recognition of symptoms and signs as cues to be followed by consultation with a physician. The now-famous "seven danger signals" of cancer exemplify this approach. The television campaign against smoking, on the other hand, represents an attempt to alter behavior. As such, it emphasizes what the individual can do for himself rather than what the doctor can (or perhaps cannot) do once illness occurs. Efforts of this kind to develop enlightened self-reliance are well suited to the contemporary climate of consumerism.

How is such enlightened self-reliance to be achieved, especially with regard to the hard-to-reach low-income groups? The entire consumer movement is a middle-class phenomenon and middle-class people have access to information from each other, from private practitioners, from print media, and finally, from television. However, as we have seen, lower-income people rely primarily on television and verbal communication for information. Information transmitted verbally may be incorrect or distorted by cultural differences while television is a double-edged sword: It is a source of information and misinformation, and the poorly educated are more likely to believe the latter than are better educated persons.

The following objectives must be realized if we are to have self-reliant health consumers. They are designed to reinforce and augment the community of interest concerned with health and to build a broader constituency for consumer health education. They are equally applicable to all segments of the population, but in the following discussion, emphasis is placed on ways to meet these objectives among low-income people.

The first objective is *to insulate the provider and the consumer against misinformation.* The health care provider must search for ways to promote the diffusion of information on both new and established therapeutic modalities to assure that medical practice incorporates the most efficacious therapies and discards those found to be less effective. While PSROs will probably eliminate gross faults, it is likely that prevalent but ineffective therapies will become part of regional criteria. Indeed, one of the greatest dangers of the PSRO program lies in the tendency for norms and criteria to become rigidly fixed, committing all member practitioners to certain therapies which may prove ineffective or harmful. Guarantees against malpractice when norms are followed will produce still more rigidity by making the threat of malpractice action part of the cost of innovation. The effect of practice patterns on consumer health education is of major importance because the consumer will evaluate his own care in terms of the same norms used by the physician. By insisting on rigid norms, the consumers may be induced to act unwittingly against their own best interests. In other words, norms which do not prescribe the most effective therapies may in themselves become sources of consumer misinformation.

For the consumer, however, a more important current source of misinformation is advertising

which encourages dietary habits leading to obesity and atherogenesis, promotes the use of drugs for the most trivial of complaints, and reinforces cigarette smoking and alcohol consumption as highly desirable social norms. Health-related television programming, too, is an important source of inaccurate factual information, especially for children, who often fail to make a distinction between commercial messages and program content.

To encourage children to think more about what they see on television, we should include the study of television commercials and television programs as part of new school health curricula. Health-related programs should be presented for classroom discussion of the questions they raise. Are most physicians like those portrayed? Why can't real physicians spend all day with a single patient as they do on most television medical dramas? What could the patient on this show have done to prevent illness? What prevents the patient from taking medicine? Do real-life male doctors fall in love with their dying female patients? Similarly, the study of commercials would explore the content of television advertising. Does the phrase "helps prevent cavities" mean the same thing as "prevents cavities"? What does it mean that product X "works to help prevent dandruff"? What does "fortified with twice as much vitamin D" mean? Is twice as much of something always good? Have women really "come a long way, baby"? If they have, what does it have to do with cigarettes? Should you be impressed that "Certs contains a sparkling drop of retsyn"? Is it a good thing that "Anacin (contains) twice as much of the pain reliever doctors recommended most"?*

The Anacin ad is illustrative of the kind of discussion one can develop around a commercial. The ad is pure noninformation. Many children would know that the "pain reliever" in question is aspirin. What is unidentified, however, is that product which contains only half the aspirin in Anacin. The implication is that this unfortunate product is a rival pain reliever, but this is not stated. The product could be a bar of soap or a box of cereal; we are never told. Having examined the ad, the class could proceed to examine the product and discuss analgesics and their use. Rival claims could be studied to point out the absurdity of it all. Anacin contains twice the pain reliever doctors recommend most, but why should doctors recommend it if Excedrin has "more pain reliever [and] more total strength than any other leading tablet"? Arthritis Pain Formula may be "the doctors' choice," but for 23 years St. Joseph Aspirin for children has been "trusted by more mothers and more doctors."

Advertisements can be juxtaposed in the classroom with some of the better programs dealing with health, such as the much-maligned "Feeling Good" or almost any of the program series developed by Tandem Productions (for example, *All in the Family, Maude, Good Times,* and *Sanford and Son*). Various individual shows in these series have dealt with health subjects, including mental health, venereal disease, breast examination, and hypertension. While these shows are primarily entertainment, they portray people trying to cope with common health problems and are both informative and accurate in handling the fear, ignorance, and denial which so often prevent beneficial health behavior. If the health product endorsement idea became a reality, these programs would provide additional points of comparison with usual advertising practice.

This approach to school health education has the advantage of building on knowledge the child possesses when he or she first enters the classroom. It proceeds to develop a meaningful education process from a central event relevant to the lives of virtually all American children (that is, television). The idea is not so much to put information into a previously unused head, but to rearrange and reorder what the child already knows. With almost 17,000 autonomous school districts in the United States, universal implementation of this approach may be impossible, but if it were successful in a few places, it would perhaps spread to others and possibly exert considerable influence.

The second objective is *the demonstration and reinforcement of preventive behavior.* Preventive behavior may be general, as in physical fitness, or specific, as in not smoking, using prescribed medication, or moderating alcohol intake. The purposes

* The list is endless. Consider, for example, "Visine gets the red out," "Pertussin—soothes your throat with a blanket of warmth," "Only Sinex has penetrating medicated vapors," "Silence is Golden—for people who believe in modern medicine and grandma," "Do you think about your health? Bufferin does." A more complete list and a very humorous discussion can be found in C. Wrighter's book *I Can Sell You Anything* 1972 (Ballantine Books, N.Y.).

of preventive behavior are to reduce mortality, morbidity, disability, and costs to individuals or to society as a whole, as well as to increase consumer satisfaction. Any of these is sufficient justification for attempting to reinforce preventive behavior.

There is little to distinguish behavior that benefits the general population from that which benefits at-risk groups. For one thing, the dividing line between general and at-risk is often blurred. In general, the poor are at greater risk for most of the chronic diseases, but the affluent are far from immune. In addition, the demonstration of preventive behavior is reinforcement for those who already behave in a preventive manner and instructive for those who do not.

Finally, the most beneficial of behaviors is perhaps the most general. Numerous studies have shown, for example, that the number of years of formal schooling is the most important correlate of good health. (*1–5*) It is not known whether this difference is accounted for by specific knowledge about medicine and health or by general knowledge and ability. However, until more is known about this relationship, those whose concern is health can do little but continue to promote the kinds of specific behaviors which can be expected to have a preventive effect on specific diseases.

The key to reaching the poor and the less well educated with information about health seems to be face-to-face transfer of information and the provision of role models. The available resource is the underutilized army of nearly 3 million low-level service and clerical workers in the health industry. These people receive little or no training from their employers (overwhelmingly hospitals) and their knowledge of health and personal health practices closely resembles that of the low-income population from which they come. Yet they are often regarded by their peers as repositories of useful health information. If, in fact, they had such information, they might become a potent positive force for health, particularly when supplemented by television coverage, health news, and the type of television-based school health program described above.

A formal, brief training program for all service-level employees should produce a large number of rather effective health educators at the grass-roots level. Even the rapid turnover of such personnel is not a loss since it results in the production of larger and larger numbers of more informed individuals who can be expected to have a beneficial effect on their communities. From the hospital standpoint, it is logical to assume that this minimal involvement of unskilled personnel will pay dividends in terms of better service and better patient care.

Workers should be encouraged to enroll in advanced courses, several of which would make the employee eligible for a certificate conferred by the hospital, providing recognition of growing health knowledge. The course work need not be complex; creative use of audiovisual techniques would enable the hospital to provide such training at modest cost and effort. Courses should stress the recognition of relevant antecedent behavior as well as signs and symptoms of the more important problems such as heart disease, cancer, stroke, accidents, diabetes, cirrhosis, and hypertension, and suggest ways that they can be avoided. The employees should be trained to take blood pressure readings, to use the thermometer, to understand the dangers of accumulating drugs from past illnesses for future use, to recognize common accident hazards around the home, and to appreciate the advantages of prenatal care. The list is not complete, but illustrative. Preventive, rather than medical, care should be stressed and the course should be designed to make the trainee a proselyte to the importance of preventive health behavior and the notion of personal health responsibility. It is expected that these "converts" would, in turn, proselytize their peers.

Along the same lines, existing ideas and consumer achievements should be used as the basis for new approaches in health education. The trend to do-it-yourself medicine should be encouraged rather than discouraged, and existing patients' bills of rights should be used to introduce the idea that the rights of patients are closely related to the obligations of consumers to preserve their own health. Do-it-yourself medicine is far more than training people in the techniques of cardiopulmonary resuscitation and first aid. It implies not only self-medication but self-evaluation and personal risk assessment. In addition, do-it-yourself medicine is easily extended to family units in which one individual, most likely the mother, assumes the role of health adviser. This role is already well established but poorly formulated in many households. Concurrent developments such as the training of more family practice physicians

and the public availability of medical care norms and criteria should further encourage the do-it-yourself movement. Obviously, endorsement of beneficial products by a blue ribbon health body would also have a stimulating effect.

Major impetus to self-medication and self-assessment might be expected from the continued development of health maintenance organizations, but the role of these prepaid group practice plans is far from certain. Existing legislation permits only federally certified HMOs to advertise regardless of State laws. However, the incentive to keep patients healthy is a part of all prepaid group practice plans, and HMOs should be free to advertise. Such advertising should stress health education and self-assessment. Local television and newspaper ads are relatively inexpensive and provide media channels to middle- and low-income people alike. HMO advertising could be an important mechanism for the effective use of media in promoting health.

The ability to deal with the aches and pains of everyday life and the ability to use medical care in a more appropriate and effective manner are the dual goals of existing attempts to educate the public in self-medication and self-assessment. The former is stressed in Sehnert's "activated patient" idea while the latter seems to underlie the contractual approach of Etzwiler and the health hazard appraisal technique of Robbins. (*6–8*) Each of these approaches is presently oriented heavily to middle- and upper-income people. Indeed, the idea of self-assessment is probably more applicable to the affluent than to the poor because it involves a financial outlay ($85 for Sehnert's course), a future orientation, and a propensity to recognize symptoms and signs at an early stage. Self-assessment might be promoted among the poor by the inculcation of the idea of self-responsibility in lower-level hospital employees. A formal course might begin with a variant of the advertising approach to school health, pointing out the limitations of drugs and leading to a discussion of the limitations of modern medicine. The importance of preventive behavior becomes apparent once the limitations of medicine are understood. Again, this indirect use of media is important because it assures that the course will proceed from a data base shared by all taking it. The emphasis of consumerism on outcome measures will serve to publicize the importance of collaboration between doctor and patient and emphasize the crucial role of the patient in the production of health. Admittedly the diffusion of these concepts among the poor will be slow, halting, and perhaps never as complete as health workers might hope, but it must be remembered that consumer health education is more a journey than a destination, and slow progress should not be used as an excuse to abandon the effort.

Although the idea of health education can be found in Plato, it should be regarded in contemporary America as a part of the consumer movement. The activities described in this chapter are designed to expand the community of interest focused on health and medical care and help achieve the third objective, *the general support of the consumer movement for health education*. The need for consumer support reflects the need for political power to achieve conditions favorable to health education. This is due to the fact that many of the concerns of health education lie within health but outside of medicine. Control of hand guns, for example, would reduce the incidence of homicide, but passage of gun control legislation would require the support of a constituency big enough to counterbalance the power of the gun lobby. Health providers cannot do it alone. Similarly, it would be helpful if restaurants listed the calorie content of various menu items. but restaurants would probably be reluctant to do so without public pressure. It is fine to advocate physical fitness as sound health promotion but where are the facilities to come from that will permit people to exercise? The bike paths, jogging trails, and skating rinks can be obtained only through legislative action prompted by consumer pressure.

The same kind of provider–consumer cooperation will be needed to overcome special interest opposition to health-related legislation. For example, if the antismoking campaign were to be reinforced by the imposition of higher taxes on cigarettes, or if pressure were needed to assure third party reimbursement for patient health education, the political process would require data on which to base decisions and a political base sufficiently strong to resist the tobacco companies, insurance carriers, and rival claimants for research monies. The health professional would provide the first; the consumer movement, the second. A case in point is the controversy over what will and will not be publically disclosed under the PSRO legislation. Organized medicine

would prefer minimum disclosure of data generated under PSRO. The American Public Health Association (APHA) favors full disclosure, but it cannot succeed alone. With the support of the consumer movement, however, full disclosure eventually will be secured. In this situation, the support of APHA legitimizes the consumer position by reinforcing it with the weight of expert opinion.

Elsewhere in this monograph we have discussed the problem of the use of mass media for purposes of health education and have noted that health promoters are financially overwhelmed by the advertising industry. The root of this problem is the financial structure of the broadcast television industry. Under the present system, advertisers—either directly through sponsorship or indirectly by demanding the largest possible audience for their prime time advertising—exert a great deal of influence over television programming. Broadcasters fear small audience shows, even when sponsored, because once viewers switch to another channel, they may not return for hours, or even days, and the ratings for subsequent shows will suffer. Even the noncommercial Public Broadcasting System is not immune to this pressure. Although they accept no ads, the educational channels cannot afford to run shows that do not appeal to their upper middle-class viewers. Loss of viewers to the networks jeopardizes the grants-in-aid that keep these channels in business.

Material that provides health information and demonstrates beneficial health behavior often is kept off the commercial networks because of low audience appeal and sometimes because of content offensive to potential sponsors. At the same time, shows like "Feeling Good," which should reach a low-income audience where its message is most needed, fail on public television because the poor are not watching; affluent, well-educated people who do watch find the approach patronizing.

It has been suggested that the interest of health education and other consumer causes would be well served by the passage of legislation prohibiting sponsors from specifying where and when their ads will appear during a day's programming. (9) This may be impractical, for a number of reasons, but it seems clear that some way must be found to reduce the influence of advertising over programming, or at the very least to make sure that television commercials are factual and free of distortion. This would make it easier to fulfill television's potential as an educational tool and would benefit the consumer in ways quite unrelated to health. The achievement of such change requires the collaboration of many consumer interest groups to solve a common problem. Similar collaboration in the past has produced long-term alliances of health providers with the forces seeking to reduce poverty and improve public education. Sustained efforts will be needed to achieve these objectives, and while both would confer major benefits on health, neither is the exclusive concern of health providers.

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